REPORT RESUMES

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INDICATORS OF DEVELOPMENTAL CHANGE IN LOWER-CLASS CHILDREN.

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PERSONALITY VARIATIONS AMONG LOWER-CLASS CHILDREN WERE EXPLORED BY (1) DEVISING AND REFINING THEORY-RELEVANT METHODS OF PERSONALITY MEASUREMENT AND (2) USING THESE METHODS TO INVESTIGATE DEVELOPMENTAL CHANGE AND TO ORGANIZE PROGRAMS OF DIFFERENTIAL EDUCATIONAL TREATMENTS. GROUPS OF SEVERAL HUNDRED STUDENTS FROM A "CULTURALLY DEPRIVED" JUNIOR HIGH SCHOOL IN SYRACUSE, NEW YORK, WERE TWICE ADMINISTERED A BATTERY OF 12 MEASURES DURING 2 CONSECUTIVE YEARS. SUCH VARIABLES AS CONCEPTUAL LEVEL, NEGATIVISM, SOCIAL DESIRABILITY, ANXIETY, AND CURIOSITY WERE MEASURED. COMPARISONS WERE MADE BETWEEN THE FIRST- AND SECOND-YEAR SCORES TO DETERMINE A "CHANGE SCORE" FOR EACH VARIABLE. TEACHER RATING AND IQ MEASURES WERE ADMINISTERED DURING THE SECOND YEAR ONLY. RESULTS OF ALL MEASURES WERE ANALYZED BY ESTABLISHING THE FOLLOWING TEST SCORE GROUPS--(1) INDIVIDUAL TEST GROUPS BY SEX, (2) CLASSROOM GROUPS BY SCHOOL GRADE, AND (3) TEST-RETEST CORRELATION GROUPS. CROSS-VALIDATIONS WERE ACCOMPLISHED AND COMPARISONS MADE WITH MIDDLE-CLASS PEER GROUPS ON ALL CONCEPTUAL LEVEL MEASURES. THE MOST SIGNIFICANT RESULTS OF THE OVERALL PROJECT WERE IN THE AREA OF HOMOGENOUS CLASSROOM GROUPING (NOT ORIGINALLY PLANNED FOR INVESTIGATION), WHILE RESULTS OF THE MAJOR PROJECT AIM, THE DEVELOPMENT OF CHANGE INDICATORS, WERE LESS SIGNIFICANT. IT WAS DETERMINED THAT A MORE INDIVIDUALIZED APPROACH MUST BE TAKEN BEFORE REWARDING RESULTS IN THE AREA OF DEVELOPMENTAL CHANGE CAN BE RECOGNIZED. (RS)

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FINAL REPORT

Indicators of developmental change in lower class children

Cooperative Research Project S - 166

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Problem

This project was the third year of a three-year investigation begun in July 1962. Our aim was to develop measures appropriate for lower-class students at the junior high school level which might serve as the basis for assessing developmental change, and also for later evaluating the effectiveness of educational intervention programs. As the number of projects aimed to enrich the educational experience of "culturally deprived" children increases, the need for objective measures which reflect the change produced by such programs becomes more acute.

As observed in the original proposal, "the measures to be developed in the present project may be valuable not only as indicators of change as a function of intervention, but these measures...may also tell us what intervention technique is most likely to be effective." In classifying students from the target population according to measures being developed, we were presented with the opportunity to form classroom groups homogeneous in personality orientation to obtain some indication of the potential educational relevance of the measures. Thus, another convergent line in the present study was to consider the education-relevance of the measures as well as the theoretical network from which they derive.

The theoretical model which serves as the basis for the present study is Conceptual Systems Theory (Harvey, Hunt, & Schroder, 1961; Hunt, 1964b). At the theoretical level the present work is viewed in a general perspective of what we have called "child-environment matching." Although we studied the lower-class child in an educational environment, we believe, if the investigations derive from a general theory of development, that the results may ultimately have much greater relevance than to the original parameters under investigation. Of course, the present study is only one beginning in establishing the utility of this theoretical model. However, we believe that some coordinating theory is necessary to approach these complex problems, and that there is no better criterion of theoretical value than its potential for producing change. We agree with Lewin that "there is nothing so useful as a good theory" and also with its converse that there is no better test of the value of a theory than its utility in application.

Objectives

The purpose of this study was to explore variations in personality among lower-class children through (1) devising and refining theory-relevant methods of personality measurement and (2) using these methods to investigate developmental change and to organize programs of differential educational treatment.

Related literature

Theory. The Conceptual Systems viewpoint developed by Harvey, Hunt, & Schroder, (1961) served as the general theoretical model in the present study. This viewpoint is stated more specifically in terms of its relevance for education by Hunt (1964b).

From this viewpoint the basic unit of analysis is the conceptual system, which is a mediating process within the person which serves as a basis for his adaptation to his environment. Like a computer program which processes information, a system serves to filter, code, or "read" events. A system is a shorthand term to describe the nature of the relation between a person and other objects. When the "object" is another person, then a system characterizes the form of self-other relatedness or interpersonal orientation: how he conceptualizes himself, others, and the relation between himself and others.

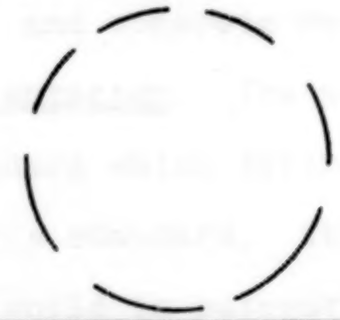
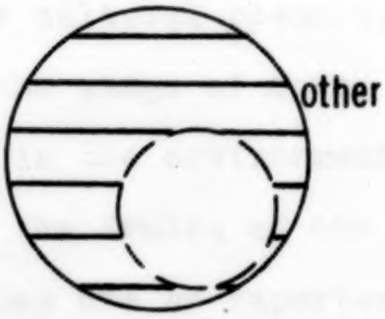
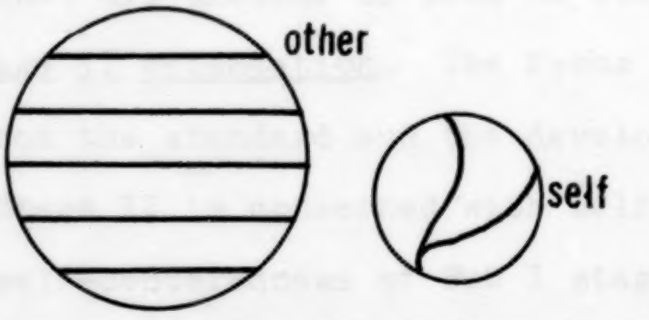
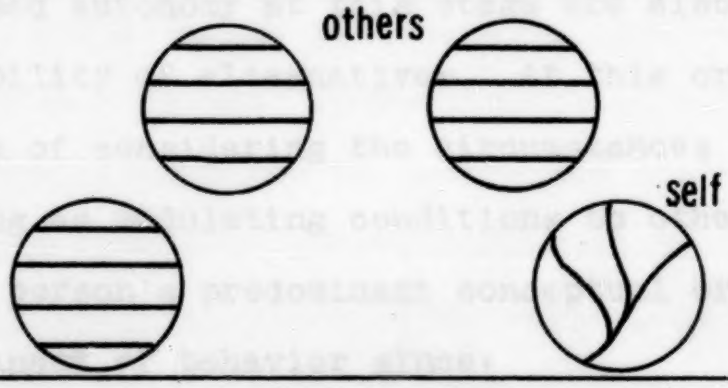
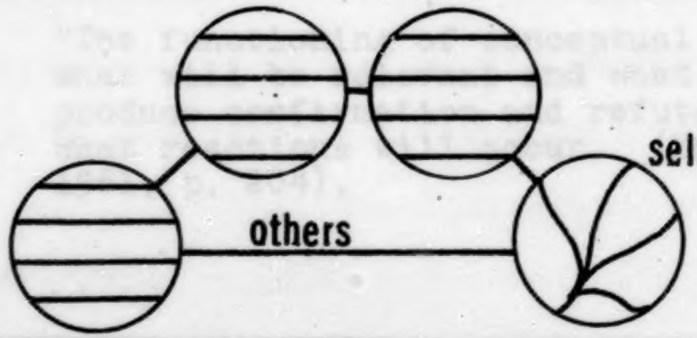
Systems vary in structure: a person may relate to objects through a rigid, inflexible structure or he may relate to objects with a structure which has many more alternatives available. At an interpersonal level, variation in systems extends from a form in which the self and others are undifferentiated parts of the generalized standard to a form in which the self is part of a highly differentiated pattern of others all of which are integrated into a whole. The dimension along which this variation occurs may be considered integrative complexity, degree of autonomy, interpersonal maturity, degree of abstractness, or the general term we have usually applied, conceptual level.

Given ideal conditions, the child progresses through a series of increasingly differentiated structural stages, such progression being characterized by increased autonomy, abstractness, or conceptual level. A child's development may become arrested at a given stage or he may continue to progress depending upon the training condition he encounters at each stage. These stages of development are summarized in Figure 1 according to the "conceptual work" associated with each stage. The present study deals with the three more concrete stages: Sub I, Stage I, and Stage II which are seen as having the following theoretically expected stage characteristics.

Sub I orientation. In the present population the Sub I orientation is typically closed and therefore is characterized by a failure to incorporate the generalized standard, along with an attempt to "break away" from the standard and define oneself. But the Stage II work of self-delineation cannot proceed without the Stage I incorporation of a standard from which to distinguish oneself. The Sub I orientation in adolescence therefore is seen as an unsuccessful attempt to function at Stage II without having dealt successfully

Figure 1

Conceptual work at each stage

Stage	Self-Other orientation	Stage Characteristics
Sub I		Unorganized — before assimilation of cultural standards
I		Learning cultural standards
II		Learning how self is distinct from standards
III	 others self	Learning about others through empathic matching
IV	 self others	Placing self and others into integrated relation

From Hunt (1964)

with Stage I. Because of defective socialization, the person oriented to Sub I seeks immediate gratification and is characterized by egocentricity and concrete negativism.

Stage I orientation. The major focus at Stage I is on the generalized standard which defines right from wrong, and one's conformity to this standard. The Stage I orientation in adolescence experiences the world in categorical chunks (good-bad) which are based on absolute cultural prescriptions and as such, bears many similarities to the stage of moral realism described by Piaget. He adapts to change in the environment only by turning to the "rule book" since from the "rules of the game" are the game. Since standards and rules are so important, he is very upset when these guide lines are unclear or when he must perform without them.

Stage II orientation. The focus is on the independent "break away" from the standard and the development of self-anchored standards. Stage II is concerned with self-distinctiveness in contrast to the self-centeredness of Sub I stage. The independence and increased autonomy at this stage are also associated with a greater availability of alternatives. At this orientation, the person is capable of considering the circumstances and possibilities for self-learning as modulating conditions to otherwise negative experiences.

A person's predominant conceptual orientation is a major determinant of behavior since:

> "The functioning of conceptual systems determines what will be relevant and what conditions will produce confirmation and refutation as well as what reactions will occur. (Harvey, Hunt, & Schroder, 1961, p. 204).

Thus, to specify a person's current conceptual orientation is relevant to how he will react to a particular situation since persons at varying stages may react to identical situations in very different fashion. For example, a highly structured environment might facilitate Stage I functioning but might disrupt functioning for a person at Stage II.

The primary task of measurement, therefore, is to assess the person's current stage of conceptual functioning. Systems vary also in their openness to progression. Thus, two persons, both at Stage I but varying in degree of openness might react differently to conditions which might encourage progression to Stage II. Therefore, a secondary task is to assess the degree of openness to progression. Knowledge of a person's conceptual orientation may serve two purposes to point to educational environments which will be most effective, and as a pre-measure in evaluating program effectiveness in programs where increased abstractness is one of the goals.

That we state the theoretical position emphatically should not imply that the present theoretical orientation is impervious to change through feedback of empirical evidence. Indeed, during the present project with its focus on lower-class children we revised the notion of stages to include the Sub I orientation, and we assume that we will continue to modify and elaborate the theoretical network as a result of subsequent investigations.

Measurement. Lack of objective, theoretically relevant measures limits the acquisition of more knowledge about the course of personality development. Since the few measures available rely to a large extent on verbal facility, the dearth of methods is even more pronounced when one considers lower-class children. Most authors (Riessman, 1962; Ausubel & Ausubel, 1963) speak of the culturally deprived child as a monolithic entity. In contrast, we believe it is important and necessary to consider variations within this group and will present empirical evidence to support this contention. Studying personality variation within lower class children not only has the advantage of understanding these children more adequately, but it also provides the basis for seeing similarities between them and middle-class children rather than focusing only on differences.

Educational relevance. Providing the most effective educational experience for lower-class children as efficiently as possible is a problem of growing importance,and the present work is relevant to such a problem. Part of the present work consisted of forming homogeneous classroom groups in order to explore differential effectiveness of differential effectiveness of different procedures, (see summary in Figure 2) and thus is related to earlier attempts to investigate the effect of homogeneous classroom grouping on the basis of personality (e.g., Stern, 1961; Thelen, 1961; Washburne & Heil, 1960).

The present approach is applicable not only to guiding decisions about the grouping of students and the planning of the most effective educational environment, but also to illuminating the complex area of teacher training (Joyce, 1964; Sibol, 1964). Also, this approach may have implication for racial desegregation in the schools. As formerly all-white schools admit negro students one of the problems is that of avoiding discrimination based on skin color. The use of stage-similar homogeneous grouping emphasizes similarity in personality orientation. It is possible that the use of homogeneous grouping which placed together negro and white students of similar personality level might transcend and diminish the importance of skin color by providing a specific basis for seeing the similarities in and thus

Figure 2

SUMMARY OF EXPECTED AND OBSERVED CLASSROOM CHARACTERISTICS AND OPTIMAL ENVIRONMENTS

	Sub-I group	Stage I group	Stage II group
Expected Characteristics of stage group	Egocentric, very concrete, impulsive, low tolerance for frustration.	Concerned with rules dependent on authority, categorical thinking.	Independent inquiring, self-assertive, more alternative available.
Observed characteristics of classroom group	"Noisy, poorly disciplined, inattentive." Easily confused, less self-control than others."	"Orderly, quiet, attentive," Questions asked to impress teacher." "Do not have faith in their convictions."	"Did not rely on teacher's direction." "Interested in finding out information." Stand up for their convictions.
Expected optimal environment for group	Highly structured, consistent environment providing many concrete, specific experiences.	Encouraging autonomy within normative standards.	Highly autonomous with opportunity for self-selected individual activities and projects.
What teachers found worked best with group	"More visual things, showing the actual thing by demonstration rather than having them show me" "Drilling, exercises get them busy right away."	"Since they are so competitive I put them in seats according to order of scores on tests." Use of debates."	"I let them know how I feel about something and they listen, evaluate, and discuss it." Debates ineffective."

integrating students of different skin colors.

Procedure

General design. In April, 1963 a battery of twelve measures was administered to all of the seventh and eighth grade students in Madison Junior High School and to all of the sixth grade students in the two "feeder" schools, 441 students in all. Following are brief descriptions of those tests which were also readministered in 1964:

Sentence Completion Test. A ten item test in which the subject is given three minutes to write his reactions and opinions to stems such as "Rules," "When I am criticized," "This I believe about people," (see Appendix 2).

Children's Social Desirability. "The CSD scale presents children with 48 true-false questionnaire items which are so stated that each item can only be answered in the socially desirable direction by dissembling. Essentially each item asks the child if he always acts in a socially acceptable manner for the behavior under consideration or never behaves in a socially unacceptable fashion. For example, 'I always help people who need help' and 'I never say anything that would make a person feel bad." (Crandall, Crandall, & Katkovsky, 1965).

Negative Attitude to School. Sixteen true-false items to tap negative attitudes to school, especially sensitivity to being controlled (Cattell & Gruen, 1954).

Situational Picture Experiment. Consists of thirteen pictorially depicted situations, one per page, e.g., one person is saying to the other "You are doing a good job." Subject is instructed "Suppose you are the person above, what would you think if this happened? Write what you would think in the space below." Two variations each of praise, criticism, control, help, rejection, and independence are presented plus one situation offering potential information.

Cattell Anxiety Scale. A subscale taken from the Cattell 16 PF. These measures served as the basis for classroom grouping in 1963-64, and in May 1964, a similar battery was administered to all students in school at that time.

In addition to these measures included in the battery, California Test of Mental Maturity (CTMM) scores were available for most students. Also, at the conclusion of the school year 1963-64 each teacher rated each student on two scales -- curiosity and ability to follow directions -- in terms of his absolute standing and how much he had changed during the past year.

Subjects. Initial sample in 1963 was the total population in Madison Junior High School. These students were from the "culturally deprived" area in Syracuse, New York, their parents were almost all in the lower class, and more than 75 percent of this group are negro. Although the numbet of students completing tests in the 1963 battery varied slightly between measures, protocols were collected for between 90 and 95 percent of the measures on the 471 students then enrolled in these three grades. The 1964 sample was the total number of students enrolled in Madison Junior High School in May 1964 which, for most measures was about 300 subjects.

Scoring. Following are the ten major measures and the method by which each was derived:

1. Conceptual level - scored from Sentence Completion Test (see Appendix 2).
2. Negativism - scored from Sentence Completion Test (see Appendix 2).
3. Sub I scale - scored from selected items in Children's Social Desirability scale, Negative Attitude to School scale and Situational Picture Experiment (see Appendix 3).
4. Stage I scale - (Appendix 3).
5. Stage II scale - (Appendix 3).
6. Open I scale - (Appendix 3).
7. Anxiety - scored from Cattell Anxiety scale.
8. Follow directions - from teacher ratings.
9. Curiosity - from teacher ratings.
10. IQ - from CTMM.

In addition, chronological age in months (CA) was considered in some forms of analysis.

Method of analysis

Results from the seven basic measures (Conceptual level, Negativism, Sub I scale, Stage I scale, Stage II scale, Open I scale, and Anxiety) were available for subjects tested in 1963 and in 1964. Therefore, these results were considered through three scores for each variable: Time 1 (1963), Time 2 (1964) and change score. For the two teacher rating measures, only Time 2 and a change score were used, and for IQ (CTMM) only a Time 2 score was used. In the analysis described below, all of the scores available were used in each analysis; thus, the number of subjects in analysis of change scores was less than the number of subjects at Time 1 or at Time 2 since both scores are required for a change score. The measures were analyzed in three general methods as follows:

1. First analysis - "pure" stage group by sex analysis

On the basis of scoring procedures described in Appendix 1, subjects' Conceptual level (CL) and negativism scores were used to form four "Pure" stage groups -- Sub I, Stage I, Open I, and Stage II. The remaining subjects were placed into one of three groups: mixed (those subjects whose pattern of scores did not place them into one of the four "pure" groups), unscorable (those subjects for whom three or fewer of their sentence completion responses could be scored, and unclassified (those subjects who did not take the sentence completion test but for whom other measures were available. Each of these seven subgroups will be further subdivided into a male and female subgroup.

2. Second analysis - classroom group by school grade analysis

On the basis of procedures described earlier (Hunt & Dopyera, 1964), the 360 students enrolled in the Fall, 1963 were placed into eighteen classroom groups of approximately twenty students each during the entire 1963-64 school year. At each of the three grades (seventh, eighth, and ninth) one each of the following classroom groups was formed: Sub I, Stage I, Stage II, and Able. (Able classification was based on high intelligence regardless of CL). In addition to these twelve classroom groups, there were six classes remaining which were not classified referred to as Residual classes. In the second analysis, measures are therefore considered by classroom group and school grade so that the score can be considered by specific classroom group, e.g., Stage I 8th grade; by overall stage classroom group, e.g., total Sub I groups; and by total school grade, e.g., 9th. grade.

3. **Third analysis - correlational**

Interrelation of Time 1, Time 2, and change scores were analyzed as well as test-retest correlations for each measure.

Analysis of data and findings

First analysis

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Insert Tables 1 through 27 here

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Tables 1 and 2 are useful primarily to indicate the basis for forming the "pure" groups on which the first analysis was based. In a similar fashion, the four objective scales were empirically derived to provide a maximum discrimination between these extreme groups so that Tables 3, 4, 5, and 6 are useful primarily to indicate the nature of the original scores from which scales were derived.

The results of Tables 8 through 13 indicate the scores for these "pure" groups after a one-year interval. From the viewpoint of stability, one would expect the scores to remain quite similar (however, as we have indicated earlier, from the viewpoint of change measures, one might not expect the scores to remain the same). The pattern of results in these six tables can be summarized by two general summary statements. First, the scores of the "pure" groups remain in the same predicted relation to one another, e.g., CL score continues to increase with higher "pure" groups, and the highest score for each of the objective tests occurs in the group which it was designed to identify (with the exception of the Open I which was included only for exploratory purposes). Second, within this general similarity of pattern, there is a considerable regression effect observed on every measure in which the score of the extreme group is considerably lower than at Time 1 when this score was evaluated to the maximum for between-group separation. This regression is not unexpected due to the nature of the scales, but it presents considerable problems in measuring change.

Teacher ratings were included to obtain some evidence of educational characteristics of groups. The general expectation would be that the Sub I group would be low in both, Stage I high in following directions and moderate in curiosity, while the Stage II group would be moderate in following directions and high in curiosity. The expectation holds for curiousity(Table 16) but not for following directions (Table 15).

The most notable finding in the change scores is probably the result (Table 19) that the overall CL change is zero. Although this finding is based on 191 subjects for whom measures were available at both Time 1 and Time 2 so that it is probably an accurate representation, the finding is nonetheless puzzling because in other results with two different middle-class junior high school populations, we have observed CL increases with grade in cross-sectional analysis. However, as will be noted in the second analysis (Table 28) no such cross-sectional difference is originally in evidence in the present population. Whether this reflects the extreme closedness of many of these subjects is a matter for further research. In general, the change score analysis can be seen in relation to the earlier observed regression effect in Time 2 measures.

In considering these change measures results it should be noted that the present procedure of simply administering measures to a large sample and re-administering after an appreciable time interval is not the ideal method for developing change indicators since there are theoretical reasons for expecting that certain persons will increase and that certain persons who experience a particular form of intervention will also increase. In many cases, however, there is little reason to expect change. Since in the present project we were not concerned with programming specific forms of educational intervention (indeed this project was being conducted in cooperation with just such a project which was aimed at all of these subjects). Thus, within the general overall lack of change, there is obviously considerable variability from persons who either increase or decrease. While much of this may be attributable to regression, it would seem useful to look more closely at subjects whose scores changed very markedly to attempt to get some idea of the source of such change.

Second analysis

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Insert Tables 27 through 54 here
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Since the Time 1 scores for CL, negativism, and the objective scales served as the basis for homogeneous classroom grouping, the results in Tables 28 through 32 are useful to indicate the basis for this grouping more specifically. For example, one can note from Table 28 that the Stage II classroom group in the seventh grade was much lower in CL than were the other Stage II groups because there were fewer subjects with high CL scores in the seventh grade. Nonetheless, as noted earlier, there is no evidence of an overall increase in CL with increasing grade since the mean at each grade is .95. In the case of the Stage II scale, however (see Table 32) the score does increase substantially with increasing grade as would be expected.

Table 35 suggests, however, that at Time 2, CL becomes progressively higher at the higher grade levels. The pattern of scores in Tables 35 through 41 is generally similar to that of the Time 2 scores in the First Analysis since these are simply different ways of arraying the basic scores.

Table 46 exemplifies what is perhaps one of the major methodological possibilities of the present approach. An inspection of this table gives an indication of the conceptual growth as a function of specific classroom groups. Although these stage-similar classroom groups were not specifically assigned to educational environments to maximize the "match" (Hunt, 1964b) there is suggestive evidence for instance where such a match occurred. For example, note that the Sub I 9th grade classroom group showed a gain of .85 in CL. If the nature of the environmental matching had been manipulated then a method of analysis such as that of Table 46 provides an illuminating means of viewing specific patterns of change when they occur, and of specifying the determinants of change more precisely. Even though the environment was not specified, one might ask the question "Is there any evidence that homogeneous grouping as such is valuable?" Although it is tempting to compare the Sub I group with the residual group and note the much greater conceptual growth in the Sub I group which was placed in a homogeneous group, it is unfortunately not possible to rule out the possibility of this difference being attributable to regression effects.

Third analysis

Insert Tables 55 through 58 here

The pattern of relations noted in both Tables 55 and 56 indicating that Anxiety relates positively to the Sub I and Stage II scale, but inversely to the Stage I scale is probably more attributable to method than theoretical variables. It will be recalled that many of the objective stage scale items come from the Children's Social Desirability Scale which is inversely related to anxiety. Whether these differences represent between stage group differences in Anxiety or similarity in response set will require further investigation. However, the pattern (Table 7) is similar when the groups are defined by sentence completion measures so that this may represent a stable stage-related characteristic.

Table 58 contains the test-retest correlations over a period of one year for the seven major variables. Although all seven of the correlations are statistically significant, the degree of the relationship is not as high as desirable. The reliability coefficients for the five scales derived from questionnaires are uniformly higher than the two scales derived from the free response sentence completion method. There are no specific ground rules for how reliable a measure should be if it is to reflect change, and we know that if the measure is too stable that it may be insensitive to change which occur, but nonetheless the reliability of conceptual level of .327 is discouragingly low. Rater reliability is satisfactory (r = .85) but would still contribute some error in test-retest reliability and the relatively constricted range of conceptual level may also have decreased the correlation.

Cross validation of Conceptual Level Questionnaire

The discriminatory power of the three empirically derived objective stage scales -- Sub I, Stage I, and Stage II was evaluated in a separate sample of essentially middle class students described in Appendix 4 (pp. 4-5). Three "pure" stage groups were identified on the basis of conceptual level and negativism scores as indicated in Table 59. The scores of these three stage groups on the three objective scales were then compared. The mean Sub I scale score for the Sub I group was significantly higher than the Stage I group ($t = 3.95$, $p < .001$) and significantly higher than the Stage II group ($t = 3.41$, $p < .001$). The mean Stage I scale score for the Stage I group was significantly higher than the Sub I group ($t = 3.17$, $p < .01$) and significantly higher than the Stage II group ($t = 3.20$, $p < .01$). The mean Stage II scale score for the Stage II group was significantly higher than the Stage I group ($t = 3.71$, $p < .001$), but was not significantly higher than the Sub I group ($t = 1.84$, $p < .10$). With this last exception, therefore, the three objective scales appear to discriminate fairly effectively in an independent sample suggesting that they may be useful as secondary referents in stage classification (Appendix 1).

Comparison of lower-class and middle-class students in conceptual level

Appendix 4 describes the results of an investigation comparing the conceptual level scores of the present lower-class population with a large middle-class population of junior high school students. As expected, conceptual level was significantly higher in the middle-class than in the lower-class group, a superiority observed not only for the total group but for both male and female between-class comparisons. However, the lower-class group showed significantly more variability in conceptual level than the middle-class group, a result which has considerable implication for planning programs for the lower-class student.

Conclusions and Implications

During the first two years of the present project, classroom groups homogeneous in conceptual level were formed (Hunt & Dopyera, 1964). Anecdotal and qualitative impressions of this grouping were quite positive, especially when it was possible to work with the teachers to attempt to provide what would be regarded as the optimal educational environment for the particular group. Quantitative evaluation of effectiveness of this group was attempted (Tables 46 through 52) but is very difficult. Homogeneous grouping is only one-half of the Conceptual Systems change model (Hunt, 1964b) on which grouping is based and, unless one can program or arrange the educational environments to which these homogeneous groups are exposed, the theoretical prediction of expected change is impossible. There were some indications from another study not completely analyzed that grouping qua grouping produced more gains on objective achievement tests, but this result is tentative. Because the present investigation was not designed initially to investigate the educational utility of the change model, it was impossible to test its utility in a controlled fashion. However, the results of the two years of homogeneous grouping were sufficiently encourageing to warrant later attempts to pursue such investigation. The present investigation has developed measures which are quite useful for such classification purposes. Equal attention is now required to developing measures of the educational environments which teachers radiate, an area which we have begun (Hunt, in press).

Although the present model of differential educational treatment remains to be validated, the fact that homogeneous classroom grouping of lower-class students appeared to be educationally relevant (Hunt, 1964b) and the fact that lower-class students show more variability than middle-class students in conceptual level (Appendix 4) raise serious questions about the usefulness of single educational prescriptions for the culturally deprived student (e.g. Riessman, 1962). As we have indicated, the present approach is equally applicable to lower- or middle-class students (and might be especially interesting in schools containing both), and we need to know more about the utility of differential educational treatment for students in general. At the very least, it seems fair to conclude from the present project that writing single prescriptions for what will be most effective for culturally deprived students in general is not only an oversimplification, but may impair rather than enrich the educational experience of some students.

Paradoxically, we have achieved our most encouraging results in an area which we had not originally planned to investigate, homogeneous classroom grouping, while the results on the major aim of the project, the development of change indicators, has been least encourging.. The psychometric demand of reflecting change in an attribute are much more rigorous than in simply measuring the degree to which the attribute exists so that in retrospect, these results may not be so paradoxical as they appear. Perhaps we need to think of different kinds of measures for the two purposes, one set of measures for classification and one set for indicating change. In this connection, Baldwin has observed "There is no a priori reason that the categories of personal traits that cohere meaningfully in the analysis of the contemporaneous situation must be the same categories that are homogeneous with respect to the process of change" (Baldwin, 1960, p. 22).

At a theoretical level, we have suggested (Harvey, Hunt, & Schroder, 1961, Chapter 10) the introduction of an open-closed dimension separate from conceptual level as a means of dealing with this problem, e.g. a closed Stage I person would be less likely to change than an open Stage I person. However, we have not as yet developed measures for assessing degree of openness independent of conceptual level. In the present study, the exploratory work with the Open I scale represented an attempt, and this work needs to be continued.

In reflecting on the relative lack of success in developing change indicators one might note also the negative attitude to paper-and-pencil tests on the part of many students in this population which doubtless produces error variance. However, although we have attempted developing non-verbal means of assessing conceptual level, these measures were not very successful (Hunt & Dopyera, 1964).

Aside from the general difficulty in developing measures with a lower-class population we have several impressions from what we have learned in the present investigation which may be useful for planning future studies. First, it is very difficult to develop change measures independent of an intervention project in which some change is expected for some persons and not for others. Put more simply, there must be some change occurring in order for one to indicate its presence through measures. Second, in the present imprecise state of knowledge regarding theoretically derived measures of personality and personality development, one may question the strategic advisability of the present approach which attempted to assess large numbers of subjects with group-administered, fairly quickly scored measures. Perhaps we need to set a more modest goal of attempting to understand more comprehensively the personality organization and factors determining change in certain selected subjects so that such knowledge can provide a more secure foundation for extending the results and the measures on which the results are based to a larger number of subjects. In the present investigation, the decision to spend most of the first year studying a fairly small number of students through individual interviews as well as paper-and-pencil tests was probably no small factor in the later results which we obtained. We might have learned more about measuring change if we had continued this more intensive individual approach over time to investigate the occurrence of change in these individuals rather than attempting to understand the change process in several hundred subjects through only paper-and-pencil tests. These retrospective reflections are not intended to apologize for the results which were obtained since we were to some extent committed to the approach of studying large number of subjects. However, since the project yielded several findings which merit further investigation it seems important to consider how such subsequent approaches may be designed.

In conclusion, the long-range plan emerging from these results is to spend whatever time necessary to develop more adequate ways of conceptualizing and measuring educational environments, to study how teachers can be trained to radiate such environments, and finally to use such knowledge for studying the differential effectiveness of such environments upon students at different conceptual levels as predicted by the change model (Hunt, 1964b).

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Table 1

First Analysis

Conceptual level - Time 1

GROUP:	MALE N	MALE X̄	MALE SD	FEMALE N	FEMALE X̄	FEMALE SD	TOTAL N	TOTAL X̄	TOTAL SD
Sub I	25	.28	.20	9	.34	.21	34	.29	.20
Stage I	19	1.00	0	18	1.00	0	37	1.00	0
Open I	6	1.30	.06	19	1.31	.06	15	1.31	.06
Stage II	7	1.66	.08	16	1.74	.20	23	1.71	.17
Mixed	41	.88	.25	57	.95	.25	98	.92	.25
Unsc.	0	-	-	1	-	-	1	-	-
Uncls.	1	1.00	0	0	-	-	1	1.00	0
Total	104	.84	.42	115	1.05	.41	219	.95	.43

Table 2

First Analysis

Negativism - Time 1

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	25	1.24	.45	9	1.27	.24	34	1.25	.40
Stage I	19	0	0	18	.04	.17	37	.02	.12
Open I	6	.37	.16	9	.54	.38	15	.47	.32
Stage II	7	.77	.41	16	.82	.28	23	.81	.32
Mixed	41	.59	.32	57	.50	.41	98	.54	.38
Unsc.	0	-	-	1	-	-	1	-	-
Uncls.	1	0	0	0	-	-	1	0	0
Total	104	.61	.53	115	.52	.46	219	.57	.50

Table 3

First Analysis

Sub I Scale - Time 1

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	20	9.55	3.33	13	8.54	3.50	33	9.15	3.38
Stage I	17	3.94	3.05	18	3.50	2.18	35	3.71	2.61
Open I	7	4.14	2.41	8	5.12	4.32	15	4.67	3.48
Stage II	7	5.57	3.05	17	5.47	3.61	24	5.50	3.39
Mixed	40	6.72	3.69	49	5.82	3.72	89	6.22	3.71
Unsc.	25	6.76	3.88	12	5.58	2.50	37	6.38	3.50
Uncls.	6	6.33	3.08	6	5.83	4.07	12	6.08	3.45
Total	146	6.46	3.69	140	5.44	3.52	286	5.96	3.64

Table 4

First Analysis

Stage I Scale - Time 1

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	20	7.65	3.05	13	6.69	2.06	33	7.27	2.71
Stage I	17	10.88	2.47	18	12.78	3.34	35	11.86	3.06
Open I	7	8.57	3.51	8	7.12	3.56	15	7.80	3.49
Stage II	7	9.00	3.70	17	6.76	3.42	24	7.42	3.57
Mixed	40	8.10	3.03	49	9.39	3.24	89	8.81	3.19
Unsc.	25	7.32	2.88	12	9.33	1.97	37	7.97	2.76
Uncls.	6	7.83	4.71	6	8.33	4.27	12	8.08	4.30
Total	146	8.22	3.16	140	8.86	3.68	286	8.53	3.43

Table 5

First Analysis

Stage II Scale - Time 1

GROUP:	MALE N	MALE $\bar{X}$	MALE SD	FEMALE N	FEMALE $\bar{X}$	FEMALE SD	TOTAL N	TOTAL $\bar{X}$	TOTAL SD
Sub I	20	8.00	2.71	13	10.54	2.54	33	9.00	2.89
Stage I	17	7.18	3.24	18	6.00	2.97	35	6.57	3.12
Open I	7	7.71	3.30	8	11.00	1.07	15	9.47	2.85
Stage II	7	10.00	2.00	17	10.59	2.15	24	10.42	2.03
Mixed	40	8.10	2.65	49	7.94	2.83	89	8.01	2.74
Unsc.	25	8.36	2.77	12	8.50	1.98	37	8.41	2.51
Uncls.	6	9.67	2.66	6	7.83	4.07	12	8.75	3.41
Total	146	8.40	2.74	140	8.58	2.96	286	8.49	2.85

Table 6

First Analysis

Open I Scale - Time 1

GROUP:	MALE N	MALE $\overline{X}$	MALE SD	FEMALE N	FEMALE $\overline{X}$	FEMALE SD	TOTAL N	TOTAL $\overline{X}$	TOTAL SD
Sub I	20	3.95	1.43	13	6.69	1.55	33	5.03	1.99
Stage I	17	6.18	2.58-	18	8.06	2.15	35	7.14	2.52
Open I	7	5.86	2.12	8	6.88	1.73	15	6.40	1.92
Stage II	7	6.57	1.81	17	7.88	1.80	24	7.50	1.86
Mixed	40	4.78	1.93	49	7.00	1.77	89	6.00	2.14
Unsc.	25	4.84	2.56	12	7.00	2.04	37	5.54	2.59
Uncls.	6	5.00	1.67	6	7.50	1.64	12	6.25	2.05
Total	146	4.97	2.18	140	7.17	1.86	286	6.05	2.30

Table 7

First Analysis

Anxiety Score - Time 1

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	22	7.82	3.50	11	8.00	3.69	33	7.88	3.51
Stage I	19	6.47	3.89	17	3.65	2.67	36	5.14	3.62
Open I	6	5.83	3.60	8	8.62	3.20	14	7.43	3.55
Stage II	7	6.14	3.67	16	8.50	3.48	23	7.78	3.63
Mixed	42	6.12	2.62	51	7.31	3.70	93	6.77	3.29
Unsc.	25	6.56	3.40	13	8.38	4.23	38	7.18	3.76
Uncls.	7	5.57	2.57	8	10.50	4.00	15	8.20	4.16
Total	154	6.77	3.21	141	7.55	3.85	295	7.14	3.55

Table 8

First Analysis

Conceptual level - Time 2

GROUP:	MALE N	MALE $\bar{X}$	MALE SD	FEMALE N	FEMALE $\bar{X}$	FEMALE SD	TOTAL N	TOTAL $\bar{X}$	TOTAL SD
Sub I	20	.71	.57	9	.85	.46	29	.76	.53
Stage I	17	.94	.22	18	.98	.21	35	.96	.21
Open I	6	1.00	.16	10	1.17	.32	16	1.11	.28
Stage II	6	1.02	.43	18	1.16	.33	24	1.12	.35
Mixed	37	.88	.30	55	.99	.29	92	.94	.30
Unsc.	23	.54	.33	14	.89	.40	37	.67	.39
Uncls.	7	.80	.23	8	.71	.44	15	.75	.35
Total	136	.79	.38	150	.98	.34	290	.89	.38

Table 9

First Analysis

Negativism - Time 2

GROUP:	MALE N	MALE $\bar{X}$	MALE SD	FEMALE N	FEMALE $\bar{X}$	FEMALE SD	TOTAL N.	TOTAL $\bar{X}$	TOTAL SD
Sub I	22	.80	.52	9	.76	.19	31	.79	.44
Stage I	17	.29	.39	18	.28	.33	35	.29	.36
Open I	6	.70	.16	10	.53	.28	16	.59	.25
Stage II	6	.55	.28	18	.57	.37	24	.57	.34
Mixed	37	.60	.32	56	.56	.33	93	.57	.32
Unsc.	23	.53	.42	14	.60	.30	37	.56	.38
Unsls.	7	.55	.25	8	.67	.43	15	.61	.35
Total	140	.58	.40	151	.54	.35	295	.56	.37

Table 10

First Analysis

Sub I Scale - Time 2

GROUP:	MALE N	MALE $\bar{X}$	MALE SD	FEMALE N	FEMALE $\bar{X}$	FEMALE SD	TOTAL N	TOTAL $\bar{X}$	TOTAL SD
Sub I	24	6.83	3.24	9	7.89	3.30	33	7.12	3.24
Stage I	20	4.60	3.69	18	2.56	2.41	38	3.63	3.28
Open I	6	5.50	3.21	9	5.44	2.74	15	5.47	2.82
Stage II	7	6.29	4.11	18	5.44	3.36	25	5.68	3.52
Mixed	38	6.11	3.39	54	5.02	2.84	92	5.47	3.11
Unsc.	28	6.43	3.70	13	5.62	2.29	41	6.17	3.31
Uncls.	5	4.80	4.71	8	5.25	2.31	13	5.08	3.25
Total	150	6.08	3.45	149	5.10	3.02	303	5.57	3.29

Table 11

First Analysis

Stage I Scale - Time 2

GROUP:	MALE			FEMALE			TOTAL		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	19	6.21	2.84	7	6.57	2.44	26	6.31	2.69
Stage I	14	8.21	2.39	13	11.15	2.54	27	9.63	2.84
Open I	4	9.00	2.45	7	7.14	3.85	11	7.82	3.40
Stage II	5	7.00	3.81	13	6.08	2.69	18	6.33	2.95
Mixed	29	7.48	3.68	42	8.17	3.62	71	7.89	3.64
Unsc.	16	7.31	3.65	8	7.88	2.85	24	7.50	3.35
Uncls.	2	11.00	8.49	5	5.40	3.05	7	7.00	5.07
Total	103	7.55	3.51	110	7.75	3.49	213	7.66	3.49

Table 12

First Analysis

Stage II Scale - Time 2

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	19	9.21	2.25	7	8.71	1.98	26	9.08	2.15
Stage I	14	8.71	2.89	13	7.15	2.73	27	7.96	2.86
Open I	4	9.00	2.58	7	9.43	2.64	11	9.27	2.49
Stage II	5	8.20	2.28	13	10.92	1.80	18	10.17	2.26
Mixed	29	8.72	2.52	42	8.31	2.94	71	8.48	2.77
Unsc.	16	7.56	3.20	8	8.25	2.82	24	7.79	3.04
Uncls.	2	7.50	3.54	5	9.60	2.70	7	9.00	2.83
Total	103	8.50	2.57	110	8.68	2.73	213	8.59	2.65

Table 13

First Analysis

Open I Scale - Time 2

	MALE			FEMALE			TOTAL		
GROUP:	N	X	SD	N	X	SD	N	X	SD
Sub I	19	3.16	2.36	11	5.64	2.25	30	4.07	2.59
Stage I	14	5.50	1.99	14	7.43	2.17	28	6.46	2.27
Open I	4	4.75	3.20	8	6.25	2.25	12	5.75	2.56
Stage II	5	5.80	1.30	13	5.62	1.76	18	5.67	1.61
Mixed	31	4.39	1.82	45	6.33	2.25	76	5.54	2.28
UNSC.	16	4.62	2.42	9	5.22	2.44	25	4.84	2.39
UNCLS	3	5.00	2.00	5	5.80	1.92	8	5.50	1.85
Total	110	4.69	2.29	121	6.22	2.14	231	5.49	2.34

Table 14

First Analysis

Anxiety Score - - Time 2

	MALE			FEMALE			TOTAL		
Group:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	19	5.58	3.42	11	8.00	3.26	30	6.47	3.51
Stage I	15	7.33	3.52	14	4.14	3.08	29	5.79	3.64
Open I	4	9.50	1.91	9	8.11	3.22	13	8.54	2.88
Stage II	5	4.80	3.03	13	8.46	3.69	18	7.44	3.82
Mixed	31	6.77	2.46	45	7.51	3.67	76	7.21	3.23
UMSC.	16	6.94	2.84	9	7.56	3.28	25	7.16	2.95
UNCLS	2	9.00	1.41	5	8.20	2.68	7	8.43	2.30
Total	111	6.75	3.03	123	7.28	3.46	234	7.03	3.27

Table 15

First Analysis

Rating on following directions - Time 2

	MALES			FEMALES			TOTAL		
GROUPS:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	25	2.61	.58	11	2.69	.67	36	2.64	.60
Stage I	20	2.94	.67	18	3.16	.44	38	3.04	.58
Open I	6	3.07	.31	11	3.09	.63	17	3.08	.53
Stage II	6	2.82	.42	18	3.21	.44	24	3.11	.46
Mixed	40	2.93	.55	55	2.95	.65	95	2.94	.60
UNSC.	26	2.94	.69	14	2.92	.47	40	2.94	.61
UNCLS	6	2.58	.20	6	2.97	.50	12	2.78	.41
Totals	146	2.82	.62	145	3.00	.59	291	2.91	.61

Table 16

First Analysis

Rating on Curiousity - Time 2

GROUP:	MALE			FEMALE			TOTAL		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	25	2.28	.71	11	2.20	.88	36	2.26	.75
Stage I	20	2.48	.69	18	2.31	.60	38	2.40	.65
Open I	6	2.40	.51	11	2.17	.71	17	2.25	.64
Stage II	6	2.45	.87	18	3.03	.49	24	2.89	.64
Mixed	40	2.45	.86	55	2.21	.60	95	2.31	.72
Unsc.	26	2.32	.68	14	2.64	.53	40	2.43	.64
Uncls.	6	2.42	.74	6	1.92	.67	12	2.17	.72
Total	146	2.37	.76	145	2.37	.68	291	2.37	.72

Table 17

First Analysis

IQ

GROUP:	MALE N	MALE $\bar{X}$	MALE SD	FEMALE N	FEMALE $\bar{X}$	FEMALE SD	TOTAL N	TOTAL $\bar{X}$	TOTAL SD
Sub I	27	86.22	13.68	13	84.54	10.56	40	85.68	12.64
Stage I	19	89.74	10.13	21	83.57	12.49	40	86.50	11.71
Open I	6	85.17	24.56	11	87.64	7.42	17	86.76	14.98
Stage II	7	87.71	9.29	18	90.17	14.23	25	89.48	12.89
Mixed	46	88.39	15.57	58	84.31	13.06	104	86.11	14.30
Unsc.	30	83.47	14.66	19	85.37	15.44	49	84.20	14.84
Uncls.	8	84.88	15.51	10	77.60	11.84	18	80.83	13.68
Total	173	85.87	14.13	171	84.78	12.54	344	85.33	13.35

Table 18

First Analysis

Chronological Age

GROUP:	MALE N	MALE $\overline{X}$	MALE SD	FEMALE N	FEMALE $\overline{X}$	FEMALE SD	TOTAL N	TOTAL $\overline{X}$	TOTAL SD
Sub I	28	171.21	11.49	11	166.27	10.62	39	169.82	11.34
Stage I	22	160.45	10.14	21	167.52	13.66	43	163.91	12.37
Open I	6	176.33	17.18	12	168.75	11.79	18	171.28	13.79
Stage II	6	161.67	10.67	16	164.81	12.59	22	163.95	11.93
Mixed	47	167.26	16.74	62	166.94	13.33	109	167.07	14.83
Uncs.	34	165.03	16.51	19	159.89	14.80	53	163.19	15.97
Uncls.	0	-	-	0	-	-	0	-	-
Total	143	166.60	14.99	141	165.94	13.22	284	166.27	14.12

Table 19

First Analysis

Conceptual level - change

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	17	+.52	.52	7	+.63	.49	24	+.55	.51
Stage I	17	.04	.21	18	-.02	.22	35	-.03	.21
Open I	5	-.26	.21	9	-.09	.30	14	-.15	.27
Stage II	5	-.50	.31	16	-.57	.39	21	-.55	.36
Mixed	37	-.01	.41	52	+.02	.31	89	+.01	.35
Unsc.	0	0	0	1	-	-	1	-	-
Uncls.	1	0	0	0	-	-	1	0	0
Total	84	.05	.46	107	-.05	.42	191	0	.44

Table 20

First Analysis

Negativism - Change

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	19	-.51	.61	7	-.44	.26	26	-.49	.53
Stage I	17	.29	.39	18	.24	.32	35	+.26	.35
Open I	5	.36	.05	9	-.02	.41	14	.11	.37
Stage II	5	-.22	.69	16	-.25	.50	21	-.24	.53
Mixed	37	.04	.50	53	.07	.53	90	.06	.52
Unsc.	0	-	-	1	-	-	1	-	-
Uncls.	1	.33	0	0	-	-	1	.33	0
Total	88	-.01	.57	108	.02	.50	196	0	.53

Table 21

First Analysis

Sub I Scale - Change

GROUP:	MALE			FEMALE			TOTAL		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	17	-1.82	4.22	8	-1.25	5.28	25	-1.64	4.48
Stage I	16	1.06	3.82	17	-.53	2.32	33	+.24	3.19
Open I	6	1.17	1.17	7	-.71	3.40	13	.15	2.70
Stage II	7	.71	2.29	17	-.29	4.58	24	0.00	4.02
Mixed	33	-.73	3.70	43	-.79	4.28	76	-.76	4.02
Unsc.	21	-.86	4.80	12	-.25	1.82	33	-.64	3.95
Uncls.	3	.67	3.79	5	-.40	3.78	8	0.00	3.55
Total	113	-.24	3.84	120	-.37	3.82	233	-.30	3.83

Table 22

First Analysis

Stage I Scale - Change

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	14	-1.50	1.65	7	-.14	1.77	21	-1.05	1.77
Stage I	13	-2.54	2.37	12	-1.83	3.30	25	-2.20	2.81
Open I	4	0.00	1.41	6	0	5.18	10	0	3.94
Stage II	5	-2.40	2.51	12	-1.25	3.65	17	-1.59	3.32
Mixed	26	-.65	2.94	36	-.14	3.11	62	-.35	3.02
Unsc.	12	-.42	2.84	7	-1.14	2.79	19	-.68	2.77
Uncls.	1	4.00	0	3	-2.00	2.65	4	-.50	3.70
Total	81	-1.04	2.65	89	-.82	3.26	170	-.92	2.98

Table 23

First Analysis

Stage II Scale - Change

GROUP:	MALE N	MALE $\bar{X}$	MALE SD	FEMALE N	FEMALE $\bar{X}$	FEMALE SD	TOTAL N	TOTAL $\bar{X}$	TOTAL SD
Sub I	14	-1.07	2.27	7	-1.86	2.41	21	+.10	2.66
Stage I	13	.77	2.65	12	1.25	2.83	25	+1.00	2.69
Open I	4	1.25	1.89	6	-1.67	3.39	10	-.50	3.14
Stage II	5	-2.00	1.87	12	.67	3.17	17	-.12	3.06
Mixed	26	.73	2.05	36	-.53	2.80	62	0	2.57
Unsc.	12	-1.00	3.19	7	-.57	2.37	19	-.84	2.85
Uncls.	1	-3.00	0	3	1.67	2.89	4	.50	3.32
Total	81	.20	2.54	89	-.18	2.96	170	0	2.76

Table 24

First Analysis

Open I Scale - Change

	MALES			FEMALES			TOTAL		
UPS:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
I	14	-.71	2.33	9	-1.00	1.80	23	-.83	2.10
age I	13	-.85	1.95	13	-.38	2.66	26	-.62	2.30
en I	4	-.75	2.63	7	-.57	1.90	11	-.64	2.06
age II	5	-1.00	2.74	12	-1.83	1.59	17	-1.59	1.94
od	28	-.54	2.33	38	-.42	2.02	66	-.47	2.14
C.	12	-.75	2.73	7	-1.57	2.37	19	-1.05	2.57
IS.	1	2.00	0	3	-1.67	2.08	4	-.75	2.50
als	86	-.49	2.55	95	-.81	2.06	181	-.66	2.31

Table 25

First Analysis

Anxiety score - change

	MALE			FEMALE			TOTAL		
GROUP	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	15	-2.47	3.81	7	+.43	5.32	22	-1.55	4.44
Stage I	14	+.43	3.11	12	.42	3.03	26	+.42	3.01
Open I	3	+3.33	3.21	7	-.71	2.75	10	2.60	3.34
Stage II	5	-2.20	2.59	12	.25	3.05	17	-.47	3.06
Mixed	23	+.71	2.43	40	.15	3.39	68	.38	3.02
UNSC.	13	+1.08	3.04	7	-1.43	5.74	20	.20	4.21
UNCLS	2	+3.00	0.00	4	-1.75	3.30	6	-.17	3.54
Total	90	-.14	3.33	95	-.09	3.51	185	-.12	3.41

Table 26

First Analysis

Rating on following directions - change

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	25	1.27	.42	11	1.09	.36	36	1.21	.41
Stage I	20	1.39	.55	18	1.39	.51	38	1.39	.52
Open I	6	1.37	.59	11	1.35	.43	17	1.36	.47
Stage II	6	1.22	.40	18	1.09	.50	24	1.12	.47
Mixed	40	1.34	.43	55	1.21	.45	95	1.27	.44
UNSC.	26	1.35	.46	14	1.11	.60	40	1.26	.52
UNCLS	6	1.25	.42	6	1.30	.68	12	1.28	.54
Total	146	1.28	.49	145	1.22	.50	291	1.25	.49

Table 27

First Analysis

Rating on curiousity - change

	MALE			FEMALE			TOTAL		
GROUP:	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	25	1.28	.41	11	1.26	.47	36	1.28	.42
Stage I	20	1.53	.46	18	1.53	.43	38	1.53	.44
Open I	6	1.60	.49	11	1.14	.41	17	1.30	.48
Stage II	6	1.20	.25	18	1.46	.37	24	1.40	.36
Mixed	40	1.50	.41	55	1.40	.46	95	1.44	.44
UNSC.	26	1.44	.54	14	1.59	.52	40	1.49	.53
UNCLS	6	1.33	.41	6	1.17	.41	12	1.25	.40
Total	146	1.43	.45	145	1.40	.45	291	1.41	.45

Table 28

Second Analysis

Conceptual level - Time 1

Classroom Group	School Grade 7th N	7th $\bar{X}$	7th SD	8th N	8th $\bar{X}$	8th SD	9th N	9th $\bar{X}$	9th SD	Total N	Total $\bar{X}$	Total SD
Sub-I	10	.63	.29	9	.31	.33	16	.34	.28	35	.41	.32
Stage I	13	1.02	.55	15	1.05	.10	10	1.05	1.08	38	1.04	.09
Stage II	10	1.14	.37	14	1.39	.25	15	1.57	.39	39	1.39	.37
Able	4	1.10	1.15	18	.89	.35	15	.95	.34	37	.94	.33
Residual	11	.95	.33	14	.90	.31	5	.80	.14	30	.90	.29
Total	48	.95	.32	70	.95	.41	61	.95	.53	179	.95	.43

Table 29

Second Analysis

Negativism - Time 1

	School Grade											
	7th			8th			9th			Total		
Classroom Group	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub I	10	.93	.38	9	1.20	.61	16	1.16	.50	35	1.11	.50
Stage I	13	.00	.00	15	.00	.00	10	.22	3.12	38	.58	.18
Stage II	10	.59	.32	14	.65	.38	15	.67	.40	39	.64	.36
Able	4	.20	.24	18	.74	.43	15	.57	.45	37	.61	.44
Residual	11	.53	.40	14	.53	.46 .47	5	.32	.25	30	.49	.41
Total	48	.45	.45	70	.58	.54	61	.67	.52	179	.58	.51

Table 30

Second Analysis

Sub I Scale - Time 1

	School Grade											
	7th			8th			9th			Total		
Classroom Group	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	13	9.54	3.18	9	8.00	3.77	14	7.79	4.10	36	8.47	3.69
Stage I	16	4.25	2.57	15	2.80	2.11	9	4.89	3.41	40	3.85	2.69
Stage II	14	5.64	2.56	14	3.93	2.27	12	5.58	4.17	40	5.02	3.08
Able	9	4.22	3.67	21	7.38	3.28	16	6.19	4.29	46	6.35	3.84
Residual	29	5.28	3.51	16	6.56	3.48	5	4.20	1.64	50	5.58	3.40
Total	81	5.70	3.55	75	5.72	3.54	56	6.07	3.96	212	5.81	3.65

Table 31

Second Analysis

Stage I Scale - Time 1

Classroom Group	School Grade 7th N	7th $\overline{X}$	7th SD	8th N	8th $\overline{X}$	8th SD	9th N	9th $\overline{X}$	9th SD	Total N	Total $\overline{X}$	Total SD
Sub-I	13	8.85	3.36	9	5.33	1.73	14	8.00	2.80	36	7.64	3.07
Stage I	16	12.50	2.39	15	10.93	3.37	9	9.22	3.87	40	11.18	3.31
Stage II	14	9.64	2.06	14	7.71	2.67	12	6.42	4.06	40	8.00	3.19
Able	9	11.00	1.94	21	7.05	2.56	16	7.56	3.71	46	8.00	3.23
Residual	29	9.10	3.30	16	7.69	3.32	5	9.40	2.88	50	8.68	3.28
Total	81	10.04	3.09	75	7.88	3.26	56	7.86	3.56	212	8.70	3.43

Table 32

Second Analysis

Stage II Scale - Time 1

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	13	7.92	2.93	9	9.22	3.42	14	9.07	2.30	36	8.69	2.82
Stage I	16	6.63	3.03	15	6.87	2.72	9	8.22	3.56	40	7.08	3.03
Stage II	14	9.29	2.23	14	9.36	3.10	12	10.42	2.54	40	9.65	2.64
Able	9	7.11	2.76	21	9.19	2.14	16	9.44	2.25	46	8.87	2.42
Residual	29	8.21	3.02	16	7.94	2.46	5	9.20	2.77	50	8.22	2.79
Total	81	7.91	2.92	75	8.49	2.79	56	9.34	2.61	212	8.50	2.84

Table 33

Second Analysis

Open I Scale - Time 1

Classroom Group	School Grade 7th N	7th $\bar{X}$	7th SD	8th N	8th $\bar{X}$	8th SD	9th N	9th $\bar{X}$	9th SD	Total N	Total $\bar{X}$	Total SD
Sub-I	13	5.31	1.65	9	4.67	1.87	14	5.21	2.26	36	5.11	1.92
Stage I	16	6.94	2.17	15	6.47	2.83	9	6.56	2.65	40	6.68	2.48
Stage II	14	6.71	1.73	14	7.93	0.99	12	7.83	1.99	40	7.48	1.66
Able	9	6.22	2.86	21	5.48	1.81	16	5.81	2.81	46	5.74	2.37
Residual	29	5.93	2.69	16	6.00	1.83	5	7.00	1.41	50	6.06	2.32
Total	81	6.20	2.33	75	6.15	2.15	56	6.32	2.50	212	6.21	2.31

Table 34

Second Analysis

Anxiety Score - Time 1

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD
Sub-I	13	8.23	3.11	10	7.90	3.45	18	7.83	3.13	41	7.98	3.13
Stage I	16	5.63	2.99	13	5.08	3.23	9	7.67	3.05	38	5.92	3.68
Stage II	14	7.71	3.67	13	7.23	3.61	12	7.25	3.31	39	7.41	3.45
Able	9	5.67	3.64	21	7.52	3.30	16	4.69	2.50	46	6.17	3.31
Residual	30	6.90	3.78	17	6.41	3.55	5	5.00	3.46	52	6.56	3.65
Total	62	6.87	3.54	74	6.84	3.46	60	6.62	3.56	216	6.79	3.50

Table 35

Second Analysis

Conceptual level - Time 2

	School Grade											
	7th			8th			9th			Total		
Classroom Group	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD
Sub-I	12	.54	.24	10	.58	.40	18	1.15	.48	40	.82	.49
Stage I	13	.78	.18 1.08	16	1.06	.35	10	1.11	1.66	39	.98	.28
Stage II	15	.84	.39	16	1.15	.33	14	1.17	.34	45	1.05	.38
Able	11	1.00	.25	23	.98	.35	15	.92	.30	49	.96	.31
Residual	26	.65	.30	16	.83	.19	3	.94	.32	50	.75	.29
Total	77	.74	.32	81	.95	.36	65	1.07	.36	223	.91	.37

Table 36

Second Analysis

Negativism - Time 2

Classroom Group	School Grade 7th N	$\bar{X}$	SD	8th N	$\bar{X}$	SD	9th N	$\bar{X}$	SD	Total N	$\bar{X}$	SD
Sub-I	13	.55	.29	10	.92	.45	19	.62	.35	42	.67	.38
Stage I	13	.34	.33	16	.38	.40	10	.53	3.59	39	.40	.37
Stage II	15	.63	.32	16	.67	.29	14	.51	.34	45	.61	.32
Able	11	.46	.23	22	.64	.30	15	.43	.46	48	.53	.35
Residual	28	.47	.38	16	.81	.29	8	.48	.30	52	.57	.37
Total	80	.49	.34	80	.66	.37	66	.52	.37	226	.56	.36

Table 37

Second Analysis

Sub I Scale - Time 2

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	14	6.64	2.98	9	6.44	3.28	20	6.50	3.17	43	6.53	3.06
Stage I	15	4.33	2.74	16	4.13	3.67	10	3.50	3.44	41	4.05	3.23
Stage II	15	5.53	1.99	15	4.67	2.58	14	5.93	4.01	44	5.36	2.93
Able	9	5.33	2.60	23	6.96	3.02	13	3.85	3.95	45	5.73	3.45
Residual	34	6.09	3.58	17	5.47	2.21	8	4.13	2.10	59	5.64	3.10
Total	87	5.70	3.05	80	5.59	3.10	65	5.09	3.60	232	5.49	3.22

Table 38

Second Analysis

Stage I Scale - Time 2

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	10	8.40	3.34	8	4.88	2.59	15	6.47	2.45	33	6.67	3.00
Stage I	9	11.11	3.82	13	8.31	3.25	9	9.22	3.83	31	9.39	3.67
Stage II	15	6.87	3.14	13	6.62	2.84	7	5.29	3.35	35	6.46	3.04
Able	0			22	5.91	2.88	7	9.14	3.06	29	6.69	3.20
Residual	25	8.40	3.67	15	7.60	3.87	8	8.50	2.14	48	8.17	3.49
Total	59	8.42	3.67	71	6.72	3.25	46	7.59	3.20	176	7.52	3.44

Table 39

Second Analysis

Stage II Score - Time 2

	School Grade											
	7th			8th			9th			Total		
Classroom Group	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD
Sub-I	10	7.20	2.78	8	11.00	1.60	15	9.00	2.42	33	8.94	2.70
Stage I	9	6.56	2.96	13	8.62	2.26	9	8.11	2.67	31	7.87	2.66
Stage II	15	8.60	2.44	13	9.85	2.04	7	11.29	1.38	35	9.60	2.30
Able	0			22	9.09	2.81	7	8.00	1.41	29	8.83	2.56
Residual	25	8.60	2.33	15	7.93	3.45	8	8.50	2.67	48	8.38	2.73
Total	59	8.05	2.60	71	9.11	2.73	46	8.93	2.43	176	8.71	2.64

Table 40

Second Analysis

Open I Scale - Time 2

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD
Sub-I	12	3.92	1.16	9	5.00	3.20	16	4.69	2.57	37	4.51	2.38
Stage I	11	6.64	2.06	13	5.38	1.45	9	6.11	2.71	33	6.00	2.06
Stage II	15	5.20	1.66	15	6.00	1.73	8	6.13	1.36	38	5.71	1.64
Able	0			22	4.14	2.17	9	8.33	1.41	31	5.35	2.75
Residual	26	5.15	2.34	15	6.47	2.07	8	7.25	1.67	49	5.90	2.28
Total	64	5.19	2.09	74	5.31	2.24	50	6.24	2.45	188	5.52	2.28

Table 41

Second Analysis

Anxiety Score - Time 2

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD
Sub-I	12	6.75	2.80	10	7.30	3.47	16	6.94	3.51	38	6.97	3.21
Stage I	12	5.67	2.87	13	7.38	2.18	9	7.89	5.49	34	6.91	3.56
Stage II	15	7.93	3.22	15	6.73	2.91	8	8.50	4.00	38	7.58	3.27
Able	0			22	8.64	3.14	9	5.22	2.77	31	7.65	3.38
Residual	26	6.46	2.99	16	7.38	3.10	8	6.13	1.89	50	6.70	2.87
Total	65	6.71	3.02	76	7.61	2.99	50	6.92	3.74	191	7.12	3.22

Table 42

Second Analysis

Rating on following directions - Time 2

Classroom Group	School Grade 7th N	$\overline{X}$	SD	8th N	$\overline{X}$	SD	9th N	$\overline{X}$	SD	Total N	$\overline{X}$	SD
Sub-I	14	2.84	.33	11	2,72	.83	21	2.51	.61	46	2.66	.61
Stage I	16	3.22	.45	16	2.67	.68	10	3.31	.56	42	3.03	.63
Stage II	13	3.08	.49	15	3.23	.58	15	3.00	.43	43	3.10	.51
Able	10	2.90	.52	23	2.83	.48	18	3.19	.58	51	2.97	.54
Residual	31	2.81	.68	18	3.01	.53	5	3.10	.37	54	2.90	.61
Total	84	2.94	.56	83	2.90	.62	69	2.95	.61	236	2.93	.60

Table 43

Second Analysis

Rating on Curiousity - Time 2

Classroom Group	School Grade 7th N	7th $\bar{X}$	7th SD	8th N	8th $\bar{X}$	8th SD	9th N	9th $\bar{X}$	9th SD	Total N	Total $\bar{X}$	Total SD
Sub-I	14	2.29	.80	11	2.05	.87	21	2.36	.67	46	2.26	.76
Stage I	16	2.41	.71	16	2.28	.64	10	2.54	.70	42	2.39	.67
Stage II	13	2.13	.81	15	2.70	.87	15	2.81	.81	43	2.57	.86
Able	10	2.80	.63	23	2.14	.51	18	2.74	.63	51	2.48	.65
Residual	31	2.26	.69	18	2.24	.65	5	1.78	.45	54	2.21	.66
Total	84	2.34	.74	83	2.28	.71	69	2.54	.72	236	2.38	.73

Table 44

Second Analysis

IQ

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	16	81.81	6.98	10	80.90	5.97	19	94.84	10.82	45	87.11	10.80
Stage I	18	87.72	7.67	15	81.00	7.73	9	95.67	16.07	42	87.02	11.18
Stage II	14	82.07	11.84	15	83.47	10.49	15	96.73	12.15	44	87.55	13.09
Able	10	107.70	12.04	21	83.95	7.57	18	100.61	13.09	49	94.92	14.51
Residual	32	87.34	11.82	16	71.13	6.74	8	81.50	9.80	56	82.45	11.95
Total	90	87.88	12.62	77	80.64	8.72	69	95.32	13.22	236	87.69	13.00

Table 45

Second Analysis

Chronological Age

Classroom Group	School Grade 7th N	 7th X̄	 7th SD	 8th N	 8th X̄	 8th SD	 9th N	 9th X̄	 9th SD	 Total N	 Total Ȳ	 Total SD
Sub-I	12	151.00	6.58	9	171.22	8.97	17	173.00	6.94	38	165.63	12.37
Stage I	13	156.54	.99	14	164.14	10.16	10	174.60	9.07	37	164.30	11.91 11.19
Stage II	10	156.90	9.42	14	164.00	15.53	14	172.43	10.77	38	165.24	13.64
Able	9	148.00	3.77	23	163.87	11.72	19	173.63	9.59	51	164.71	13.29
Residual	25	155.60	8.97	14	174.36	8.74	5	183.00	12.04	44	164.68	14.11
Total	69	154.17	8.71	74	166.82	12.00	65	174.08	9.45	208	164.82	13.02

Table 46

Second Analysis

Conceptual level - change

	School Grade											
	7th			8th			9th			Total		
Classroom Group	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	8	. 0	.30	7	.30	.33	13	.85	.51	28	.47	.56
Stage I	10	-.18	.14	15	-.01	.22	10	.06	1.96	35	-.04	.21
Stage II	10	-.22	.37	14	-.25	.33	14	-.42	.49	38	-.30	.41
Able	4	-.15	.30	18	.16	.45	12	-.04	.26	34	.05	.38
Residual	9	-.17	.37	13	-.02	.28	5	.26	.17	27	-.02	.33
Total	41	-.15	.30	67	.01	.37	54	-.12	.60	162	.01	.46

Table 47

Second Analysis

Negativism - Change

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD
Sub-I	9	-.42	.46	7	-.30	.68	14	-.54	.57	30	-.44	.56
Stage I	10	.31	.34	15	.35	.41	10	.32 .17	.30	35	.33	.35
Stage II	10	0	4.14	14	-.01	.55	14	-.19	.61	38	-.07	.54
Able	4	.30	.28	18	-.06	.45	12	-.08	.50	34	-.02	.46
Residual	10	-.18	.43	13	.27	.61	5	.02	.25	28	.07	.53
Total	43	-.03	.47	67	.09	.55	55	-.14	.57	165	-.02 -.20	.54

Table 48

Second Analysis

Sub I Scale - Change

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	11	-2.82	4.40	8	-1.50	5.88	14	-1.00	4.08	33	-1.73	4.58
Stage I	14	.21	2.36	15	1.60	3.92	9	-2.00	3.32	38	.24	3.48
Stage II	14	-.21	2.23	12	.92	2.31	12	-.25	5.43	38	.13	3.52
Able	8	.88	2.75	21	-.48	3.92	11	-1.73	3.93	40	-.55	3.74
Residual	29	.66	4.26	16	-1.19	3.64	4	0	1.83	49	0	3.96
Total	76	-.07	3.65	72	-.08	3.96	50	-1.08	4.08	198	-.33	3.88

Table 49

Second Analysis

Stage I Scale - Change

Classroom Group	School Grade 7th N	7th $\bar{X}$	7th SD	8th N	8th $\bar{X}$	8th SD	9th N	9th $\bar{X}$	9th SD	Total N	Total $\bar{X}$	Total SD
Sub-I	8	-1.38 -1.48	2.92	7	-.57 -.58	1.90	11	-.55	1.92	26	-.81	2.21
Stage I	8	-1.39	3.81	13	-3.08 -3.09	2.69	8	1.00	2.83	29	-1.48	3.42
Stage II	14	-2.93	2.73	11	-.45	2.81	5	-1.20	4.09	30	-1.73	3.12
Able	0			20	-1.45	2.46	7	0.00	2.16	27	-1.07	2.43
Residual	21	-1.05	3.29	14	.14	2.21	4	0	2.31	39	-.51	2.86
Total	51	-1.67	3.19 3.18	65	-1.17	2.64	35	-.11	2.55	151	-1.09	2.86

Table 50

Second Analysis

Stage II Scale - Change

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	8	-.62 -.63	3.54	7	1.00	3.16	11	-.09	3.83	26	.04	3.49
Stage I	8	.25	3.11	13	1.92	2.60	8	-1.00	2.27	29	.66	2.86
Stage II	14	-.29	2.73	11	-.18	2.48	5	.40	1.14	30	-.13	2.39
Able	0			20	-.15	2.18	7	-2.00	2.00	27	-.63	2.26
Residual	21	.14	2.65	14	0	3.19	4	.25	1.26	39	.10	2.70
Total	51	-.08	2.82	65	.42	2.71	35	-.57	2.67	151	.02	2.75

Table 51

Second Analysis

Open I Scale - Change

	School Grade											
	7th			8th			9th			Total		
Classroom Group	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	9	-1.78	2.44	7	.14	3.02	11	-.64	1.21	27	-.81	2.25
Stage I	10	-.40	1.51	13	-1.23	2.83	8	.25	1.49	31	-.58	2.19
Stage II	14	-1.36	2.27	13	-1.77	1.17	5	-2.20	1.10	32	-1.66	1.72
Able	0			20	-1.25	2.10	9	1.56	2.46	29	-.38	2.54
Residual	21	-.62	1.94	14	.43	1.87	4	.50	2.38	39	-.13	1.98
Total	54	-.96	2.06	67	-.85	2.28	37	±0.00	2.05	158	-.69	2.17

Table 52

Second Analysis

Anxiety Score - Change

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
Sub-I	9	-1.22	5.19	8	-1.13	4.12	14	-1.14	2.35	31	-1.16	3.68
Stage I	10	-.80	1.48	12	2.58	3.40	8	-.50	2.39	30	.63	3.01
Stage II	14	.21	3.02	12	-.92	3.55	5	.40	2.61	31	-.19	3.14
Able	0			20	1.35	3.44	9	.67	1.94	29	1.14	3.03
Residual	22	-.86 -.87	3.33	15	1.00	3.51	4	.75	2.87	41	-.02	3.40
Total	55	-.64	3.34	67	.79	3.67	40	-.22	2.37	162	.06	3.32

Table 53

Second Analysis

Rating on following directions - Change

Classroom Group	School Grade 7th N	7th $\overline{X}$	7th SD	8th N	8th $\overline{X}$	8th SD	9th N	9th $\overline{X}$	9th SD	Total N	Total $\overline{X}$	Total SD
Sub-I	14	1.21	.32	11	1.10	.52	21	1.16	.45	46	1.16	.43
Stage I	16	1.59	.52	16	1.09	.47	10	1.24	.41	42	1.32	.52
Stage II	13	1.27	.53	15	1.25	.30	15	1.00	.42	43	1.17	.43
Able	10	1.10	.39	23	1.47	.26	18	1.34	.51	51	1.35	.41
Residual	31	1.35	.65	18	1.18	.31	5	1.42	.37	54	1.30	.54
Total	84	1.33	.55	83	1.24	.39	69	1.20	.46	236	1.26	.47

Table 54

Second Analysis

Rating on Curiousity - Change

Classroom Group	School Grade 7th			8th			9th			Total		
	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD
Sub-I	14	1.43	.47	11	1.12	.45	21	1.27	.49	46	1.28	.48
Stage I	16	1.78	.36	16	1.24	.33	10	1.37	.33	42	1.48	.42
Stage II	13	1.46	.48	15	1.09	.26	15	1.55	.37	43	1.36	.42
Able	10	1.50	.33	23	1.48	.22	18	1.65	.43	51	1.54	.33
Residual	31	1.45	.54	18	1.27	.40	5	1.44	.38	54	1.39	.48
Total	84	1.52	.47	83	1.27	.35	69	1.46	.44	236	1.41	.44

Table 55

Third Analysis

Correlation among Time 1 score

		Objective scores				Sentences		Teacher Ratings			
		2 Sub I	3 I	4 II	5 Open I	6 CL	7 Neg.	8 Dir.	9 Cur.	10 IQ	11 Age
1.	Anxiety	233	-459	306	-231	017	168	125	-096	-216	-033
2.	Sub I		-305	176	-321	-303	348	-108	135	-033	-035
3.	Stage I	286		-578	424	015	-339	154	-086	-003	-033
4.	Stage II	286	286		-158	138	246	-035	131	098	071
5.	Open.I	286	286	286		328	-211	243	084	-034	-038
6.	Conc. level	184	184	184	184		-315	219	195	086	078
7.	Negativism	184	184	184	184	219		-095	008	028	036
8.	Follow dir.	241	241	241	241	206	206		348	158	-097
9.	Curiosity	241	241	241	241	206	206	291		405	-139
10.	IQ	263	263	263	263	206	206	272	272		-130
11.	Age	224	224	224	224	207	207	239	265		

Note: Upper right hand presents correlations -- lower left hand presents N.

For N = 200, r => 138 <.05

r => 181 <.01

Table 56

Third Analysis

Correlation among Time 2 scores

	Objective Scores				Sentences		Teacher Ratings			
	2	3	4	5	6	7	8	9	10	11
	Sub I	I	II	Open I	CL	Neg	Dir.	Cur.	IQ	Age
1. Anxiety	213	-405	322	-111	101	232	-249	-094	-100	-066
2. Sub I		-381	240	-331	-210	201	-253	-095	007	-049
3. Stage I	212		-564	433	055	-306	196	021	-084	074
4. Stage II	212	213		-258	116	158	-123	058	182	-078
5. Open I	212	213	213		188	-296	250	011	043	-004
6. Conc. level	279	198	198	200		-228	081	108	167	040
7. Negativism	282	201	201	203	288		-150	-039	-172	-017
8. Follow dir.	262	187	187	198	251	255		348	158	-097
9. Curiosity	262	187	187	198	251	255	291		405	-139
10. IQ	261	189	189	202	247	252	272	272		-130
11. Age	232	170	170	181	220	223	239	239	265	

Note: Upper right hand presents correlations - lower left hand presents N.

For N = 200, $r > 138 < .05$

$r > 181 < .01$

Table 57

Third Analysis

Correlations among change scores

			Objective Scores				Sentences		Teacher Ratings			
		2 Vocab.	3 Sub-I	4 I	5 II	6 Open I	7 CL	8 Neg.	9 Dir	10 Cur	11 IQ	12 Age
1.	Anxiety	035	123	-148	096	-119	-076	141	034	062	-066	-066
2.	Vocabulary		003	-118	149	-006	012	-010	141	019	-077	023
3.	Sub I	220		-250	170	-081	-077	061	-019	-115	-022	009
4.	Stage I	166	169		-290	215	046	-046	-070	-043	011	102
5.	Stage II	166	169	170		-283	-134	275	-024	-050	-102	-159
6.	Open I	172	169	170	170		-001	008	-013	-077	171	072
7.	Conc. level	182	159	127	127	128		-168	-046	-092	088	-062
8.	Negativism	186	162	130	130	131	190		055	-043	-172	-049
9.	Follow Dir.	270	222	162	162	169	183	187		361	-137	-063
10.	Curiosity	270	222	162	162	169	183	187	291		182	-112
11.	CTMM *	277	221	163	163	171	180	184	272	272		-130
12.	Age	237	198	150	150	157	183	186	239	239	265	

Note: Upper right hand presents correlations - lower left hand presents N.

*Absolute CTMM, not change score.

For N = 150, $r \Rightarrow 159, < .05$

$r = > 208, < .01$

Table 58

Third Analysis

Time 1 - Time 2 (Test - retest correlations)

Variable	N	r
Anxiety	185	535
Sub I	170	397
Stage I	170	625
Stage II	170	482
Open I	181	581
Conceptual level	191	327
Negativism	196	314

Table 59

Mean and standard deviations for separate

samples on conceptual scores

Group	N	Conceptual level		Negativism		Sub I Scale		Stage I Scale		Stage II Scale	
		$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
Sub I	20	.32	.15	1.33	.32	6.65	3.39	3.50	1.91	7.80	2.26
Stage I	20	1.00	0	0	0	2.90	2.59	5.57	2.20	6.60	2.67
Stage II	34	1.62	.15	.69	.27	3.75	2.82	3.62	2.15	8.79	1.68
Other	548	1.03	.20	.49	.33	3.88	2.91	4.42	2.19	7.78	2.32
Total	692	1.03	.25	.46	.38	3.82	2.93	4.50	2.23	2.68	2.38

Appendices

Appendix 1

Hunt, D. E. & Dopyera, J.

Conceptual level classification: adolescents.

Appendix 2

Hunt, D. E. & Halverson, C. F.

Manual for scoring sentence completion responses for adolescents.

Appendix 3

Dopyera, J.

Conceptual level questionnaire, normative data,
and scoring instructions.

Appendix 4

Hunt, D. E. & Dopyera, J.

Personality variation in lower-class children.

Conceptual level classification - adolescents

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Several measures have been developed for assessing the conceptual level (CL) of adolescents in relation to the project, "Indicators of developmental change in lower class children." These measures were initially devised to provide indicators of current CL which might serve as pre- and post-measures for evaluating CL change over time. The measures may also be used to classify persons into CL groups, and this report describes the procedures for such classification. The two primary measures in CL classification have been described elsewhere and it is assumed that the reader can refer to the following reports:

1. Hunt, D. E., and Halverson, C. F. Manual for scoring sentence completion response for adolescents, 1964. (SCM)
2. Dopyera, J. Preliminary manual for the Conceptual Level Questionnaire for lower class adolescents, 1964. (CLQ)

The reader can use the present report along with these two reports as a Conceptual classification cookbook. We also assume that the reader knows something about the construct validity and characteristics of CL variation. However, one point is sufficiently important to bear restating: although these research measures have shown some promising educational relevance, they have not been completely validated, and persons using them should bear in mind their experimental nature.

Administration and scoring

The battery of SCM and CLQ can be administered to a group of junior high school age in 45-50 minutes, or in what is typically a school period. SCM is administered first by reading instructions on face sheet and allowing three minutes per stem. CLQ is administered as described. The battery can be used from sixth grade up, and most application has been to junior high rather than to senior high students.

Six SCM responses are scored individually on a scale from 0 to 3, using the manual (the SCM manual has been extended to include a 1.5 category which can also be included). An average CL score is then obtained across all scorable stems. If less than four stems can be scored, the subject is classified as unscorable. Three of the stems are also scored for negativism, and an average negativism score calculated. Inter-rater reliability of sentence coding between trained raters is satisfactory (.80 to .85) but it is desirable for two raters to score each response independently. Raters can become proficient on the manual by using the practice scoring sentences.

CLQ yields three objective scores -- Sub I, Stage I, and Stage II -- which should be converted to stanine scores using the conversion tables in CLQ manual.

Classification

The two SCM scores -- CL and negativism -- and the three CLQ stanine scores-- Sub I, Stage I, and Stage II -- serve as the referents for classification. These five scores can, of course, be treated as predictors, change scores, or used in other ways as well, but we are here concerned with their use in conceptual classification. The two SCM scores are the primary basis for classification according to the following table:

CL score	Negativism score	Stage classification
<~~>~~.5	= or > 1.0	Sub I
1.0	0	Stage I
= or >1.5	= or > .3	Stage II
Other scores remaining		Unclassified

Next, the CLQ is used to classify these subjects unclassifiable by SCM according to the following table:

Sub I Stanine	Stage I Stanine	Stage II Stanine	Stage classification
7 or more	6 or less	6 or less	Sub I
6 or less	7 or more	6 or less	Stage I
6 or less	6 or less	7 or more	Stage II

One caution should be noted: in classifying on the secondary basis of CLQ, one should also consider SCM scores for contra-indication, and if SCM score strongly contraindicates CLQ classification, then subject should be considered unclassifiable, e.g., CLQ leads to Sub I classification, but CL on SCM is 1.4.

These two procedures should permit the classification of 40 to 50 percent of a junior high school population. If it is necessary to classify a higher proportion of subjects, then the principles above may be relaxed somewhat, and an intuitive procedure of "best fit" employed. Certain subjects who remain unclassifiable because of reading or writing disability usually require individual assessment.

Hunt, D. E., & Halverson, C. F. Manual for scoring sentence completion responses for adolescents. August, 1964.

General characteristics of Sub I orientation

The Sub I orientation is characterized by a failure to incorporate the generalized standard along with an attempt to "break away" and define oneself.[1] But the Stage II work of self-delineation cannot proceed without the Stage I incorporation of a standard from which to distinguish oneself. The Sub I orientation at this age therefore is seen as attempting to function at Stage II without having dealt successfully with Stage I. The most central feature of this unsuccessful attempt to oppose a standard which has not been articulated is concrete negativism. The person resists suggestions or information which he interprets as subjugation by attempting to exclude them entirely. Since failure is inevitable in this cycle he also frequently manifests general uncontrolled hostility. The person oriented to Sub I seeks immediate gratification, and views interpersonal relations in a very egocentric, self-centered fashion. His immature self-centeredness ("What's in it for me?") coupled with his sensitivity to control ("Stop buggin me!") precludes any very satisfactory interpersonal relations. He evaluates others by using a few, gross, unclear concepts consisting mainly of "good guy-bad guy" dichotomies. He expresses feelings primarily by blasts of anger resulting from exasperation at the impossibility of being independent from something which is not understood.

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[1] At an earlier age, e.g. 6 or 7, the Sub I may be characterized only by an incomplete incorporation of the ground rules without the "break away." For the present, however, we focus only on the Sub I orientation in pre-adolescence and adolescence.

General characteristics of Stage I orientation

The major focus here is on the generalized standard (right-wrong) and one's compliance to this standard. The person oriented to Stage I experiences his world in categorical chunks (good-bad) which are based on absolutistic cultural prescriptions. He adapts to changes in the environment only by turning to the "rule book" since for him the "rules of the game" are the game. Such inflexible concreteness, of course, precludes effective adaptation to change. Interpersonal relations occur in a network of role prescriptions without any empathic understanding of what the other person feels or thinks. He also experiences himself primarily through a filter of role prescriptions ("What should I be doing?") and evaluates his self-worth by his success in living up to the "oughts" dictated by the rules. He is highly sensitized to status and authority of other persons, but not to their personal characteristics. Compared to the Sub I, the Stage I orientation is slightly less concrete in that his expression of hostility occurs only toward persons of low status. Since standards and rules are so important, he is very upset when these guide lines are unclear or when he must perform on his own.

General characteristics of Stage II orientation

The focus is on an independent "break away" from the standard and the development of self-anchored standards. It is important to distinguish the Stage II orientation from the Sub I since both are oppositional in structure. Stage II represents "negative independence" or "freedom from" constraint, in Fromm's terms, which implies that the generalized standard has been incorporated earlier. Stage II is concerned with self-distinctiveness ("How am I different from the rest of the world?") in contrast to the concern with self centeredness ("I am the world.") The higher conceptual level of Stage II is evidenced by the beginning consideration of conditional alternatives ("If A, then this; if B then that.") He is very sensitized to himself as a distinct entity, not as a role occupant nor as an egocentric person. His capacity to see himself as different from others permits his generating alternatives ("If applicable to others, then this; if applicable to me, then that.") In contrast to the uncontrolled blasts of Sub I and the categorical aggression of Stage I directed at low status persons, the Stage II orientation is capable of considering the circumstances and possibilities for self-learning as modulating conditions to otherwise negative experiences. His dislike of control is based on its interference with self-delineation. His more differentiated structure permits at least some tolerance of imposition or control from others (he may still experience a suggestion as "bugging" but he has other alternatives for viewing it). The increased discrimination in Stage II is exclusively between self and other and not between-other discrimination so that he is as yet also incapable of empathic understanding.

Administration:

The following stems are scores:

1. Rules
2. When I am criticized
3. Parents
4. When someone disagrees with me
5. When I am not sure.
6. When I am told what to do

Each response is scored for conceptual level on a basis similar to that described in Schroder, H. M., Driver, M. J. and Streufert, S. Personality Structure, Information Processing and Social Organization, Chapter 12. However, generic referents and scoring examples are included only for scoring through 3 on the seven-point scale. The numerical scores assigned are approximately equivalent to stage designations, i.e., 0 = Sub I; 1 = Stage I; and 2 or 3 = Stage II.

Generic referents

0 (Sub I):

Overgeneralized exclusion of potential negative events.

Lack of affective control or responding in uncontrolled fashion.

No alternatives available.

Highly egocentric - selfish rather than self-oriented.

Referents for 1:

Categorical.

Differs from 0 primarily in delineation of generalized standard.

Little delineation of self.

Concern with "right-wrong," ought, and should.

Referents for 2:

Beginning of self-delineation.

Conditional expression of affective experience.

Initial expression of available alternatives.

Conditional expression of self-determined activity.

Referents for 3:

More pronounced alternatives available.

Self delineation more clearly expressed.

Unscorable (-):

Cliches, short responses, or others having insufficient evidence for scoring.

Rules:

Score 0

1. Some times I like rules went they are on my side. But went they aren't I fight back hard.

2. I don't like school rules, because they are too strict.

3. Sometimes I hate rules because when you want to do something it is a rule to stop you.

4. Are okay with me if they are not so strick.

5. The school rules get me right off guard. Such as all this about put shirts in side and know smokigin the basements or no gum chewing and all that. And the Quater Guirdes telling you what to do. All this junk is for the birds.

6. I don't like some rules because they are strict and some dont make sence.

Basis: Perception of rules in terms of imposition and interference is egocentric. It implies that the S has neither assimilated the rule nor sees its functional utility.

Score 0

7. I don't like rules sometimes. But other times I like them.

Basis: The differential basis is not given. Not scored higher because it is self-centered. (A similar response "Some rules are good. Some rules are bad" is scored 1 because the reference is not as self-centered. The rules are "out there").

8. Some rules are find but there are to many.

Basis: Undifferentiated. This response is closer to a "1" but is still classed as "0" because it is poorly differentiated.

9. I hate the rules which we follow in Madison Jr. High. And thats all.

10. They stink for you and me. Get rid of them I say for ever.

Basis: These responses indicate a general lack of affective control indicative of Sub-I responding.

Rules:

Score 1:

11. I think are very good, they tell you what is right and wrong, what you should and shouldn't do. It gives way to better organization of things with more unity and understanding.

12. I think you should obey rules at all time.

13. Are to be obeyed, not broken. Rules make you live up to the standards of life.

14. Is a nice thing to go by. Without rules people could do anything. They could steal something from someone. Without a law against it they would keep at doing things. Valueable things would be taken. People couldn't walk the streets in peace.

15. Rules are very wonderful. If there were not any rules the world would be in danger. I like rules because they help me a great deal.

Basis: Rules are perceived in categorical terms ("oughtness"). Rules are accepted as is. There is no questioning of function nor any basis of conditionality.

16. I think rules are made for a good purpose and that you should obey them.

17. They're made for a reason.

Basis: These sentences do not indicate the purpose or reason. The rules are accepted at face value with no question of function. These responses may be more "open" but since the purpose is not specified, they cannot be scored higher.

18. When you pass a person on the sidewalk you could* say excuse me. If you do something you didnt mean you should say I am sorry.

19. Do not eat candy in school. Do not put in line. Do not get out of line. Do not fight.

20. Never copy from your neighbors paper. In the library always talk softly.

Basis: Use of absolutes or rule listings indicates some assimilation of the rule and is therefore scored 1.

*Underlined words for emphasis only, not in original sentence.

Rules

Score 2:

21. I think some rules are very helpful and are made for a reason. But some rules are to strict and don't make any sence.

22. They are alright in some places but in others they dont make sense. Rules may sometimes be very confining.

23. I like rules if they make sense! I like them if they are not too hard on people and not to eady.

24. Are good when they are used to peoples advantage.

25. Rules are good except when they are made to punish someone. Rules should be used only when necessary.

26. Some rules I like because they are easy to follow. Others I find not to easy to follow, therefore I dislike them. I know we have to have rules to live by so, generally I like to have some rules to follow. It makes you feel more secure to know someone thought enough of you to try to protect you with rules.

Basis: All of the stems give some reason for evaluating the function of the rules. Rules are perceived in a more tentative manner with some attempt to state alternative ways of viewing them. Also in some examples, there is some delineation of self. The person sees himself as distinct from the standard even though this may be stated in rather primitive terms.

Score 3:

27. I think some rules are alright but others I dislike very much. Rules should change as you get older but some just seem to be with you always. Some rules at school are too strict some rules at home are too strict. For younger brothers, sisters, the rules aren't there. They don't seem to have any rules.

28. They are fine for keeping order etc., but can be made too strict. A certain amount of rules are needed for anything. Rules should be omitted as they become unecessary.

29. Rules are good in that they establish discipline, and set down a path for governing individual actions. But, if they are to strict, or ridiculously opinionated, they are not worth having. If rules are hard to live under most people wont obey them anyway, and they become useless.

Basis: Rules are considered from more than one viewpoint with a relatively pronounced expression of the available alternatives. Rules are also viewed conditionally, the S using his own feelings as a basis for the response. These responses are also very similar to the responses scored 2 in that there is sensitization to control and delineation of self.

When I am criticized:

Score 0:

1. I like to knock people in the mouth. Sometimes I just go along my way and pretend I dont hear them.

2. When I'm criticized I ignore. I don't like and never want to be criticized by anyone.

3. It really doesn't meaner to me what people say. If people what to talk let them.

4. I get mad and want to fight.

Basis: Most responses here do not allow any potential information in criticism to be considered. The self is defended against criticism in a primitive fashion - ignoring, counteracting, aggressing, etc.

5. I some times fell that I am not trusted.

6. When people tell me things I dont like. And things I know about myself. And people make me criticised when they keep porking their nose in everybody affairs.

Basis: Very strong egocentric references, self protective, negative. The use of trust in this instance besides being highly self centered is also indicative of some attribution of malevolence.

Score 1:

7. When I am criticized I should take it with thanks. I should never get mad or angry. Everyone needs improvement. Everyone is not perfect so they must get criticized sometimes. When I am criticized then I learn something by learning I know I wont make the mistake again.

8. I try to do the right thing. I dont make the same mistake over.

9. When I am criticized if I am do something wrong and I am criticized I try to do it right.

10. When I am criticized I'll try to work better and neater and get better grades.

Basis: The information in criticism is taken only as an indication of the external standard with which one must comply.

11. If the person is right I thank him.

12. Went I know the person is right who is criting me I don't mind but if I think a person is wrong I want take his or her critim.

13. If it is done by someone I like it is ok, but if it is just the opposite I dont think much of that person, I shall carry no respect and say what ever I want back to them.

Basis: These responses which boil down to the formula "if it's right I accept it, if it's wrong I dont," are scored 1. Although this kind of response may appear at first to be differentiated, the basis is categorical and what is more important, the person gives no indication of how he will determine the "right way" character of the criticism.

14. I feel ashamed.

15. When I am criticized I am embarassed in front of everyone.

Basis: Shame and embarassment unlike the pure anger of the Sub-I indicate some internalization of the standard and modulation of affect.

Score 2:

16. Sometimes I become angry and sometimes I don't. But I don't thing any one have the right to criticize any one else, because no one is perfect in any way. Everyone is different in some way or a nother.

17. I try to do better if I know I'm not good at something or I disregard it if I feel like it or the person who criticized me is jealous.

18. At first I feel hurt, deeply hurt, then I realize that, that criticising will help me to do better so I wont be criticized the next time.

19. It used to bother me, but not it doesn't matter as long as I know what they are saying isn't true. I do not think people should criticize others it only shows their jealousy and ignorance.

Basis: The major basis for distinguishing between scores of 1 and 2 is the use of contingencies in latter. The rationale for a differential reaction requires some appraisal of the situation. The formula is "If I'm not good...if I feel like it...or if he is jealous..." which is considerably more complex than "if right...if wrong." Note also that if the only conditional statement were "If I like it" then the completion would be scored 0.

20. I feel like fighting some times. Depends upon what they say. I feel like laughing some times. I feel embrased sometimes.

21. Some times they make me mad and then I think about it. Sometime I be glad for them to tell me about it.

Basis: Not only the use of "sometimes" which may be a tentative referent but more specifically the modulation of anger into some cognitive consideration indicates a score of 2. Note the adaptive consequence of anger.

Score 3

22. Consider if the criticism is good or bad, what I did to get criticized what I did to get criticized, and what I should do so I wont be criticized again.

23. Criticism may come from a person who knows what's right; and its up to the individual criticized to distinguish this fact.

24. I often get upset, but usually I try to see what I am being criticized. I suppose this is just about the way most of us feel. After all, we all want to be excepted and liked.

Basis: Both responses are more differentiated with respect to self and others. The available alternatives are clearly expressed. Also the beginnings of mutuality indicate a score of 3.

Parents:

Score 0:

1. Are very mean I think because this won't let you do what you want to and eat a lots of candy and stuff like you would want to. This won't let you go out eveny time you get ready unless you have did your work.

2. I hate them. They don't ever let you go free some times. Mostly all the time. To tell the truth I don't even like my parents and that a fact. They bug me.

3. My parents are good to me my mother bring me candy home.

4. Some time there all right, butthere to strict, and they get mad over the littlest thing. And they make you come in a certin time.

5. I think parents are to strict. I can't go any where I want most of the time or I can't do things I want to.

Basis: All responses are highly egocentric. The formula is: Parents are ok if they indulge every desire of the child. Imposition by the parents however, pulls a very negative response.

6. They can be a lot of help sometimes but other times they make me mad. Always picking on you.

Basis: No real basis for conditionality. Actually this is a statement of the unreliable environment which the Sub-I experiences.

Score 1

7. I think parents are the most wonderful things a boy or girl could ever want. There always there when you in trouble, fun or anything you need help or companionship in.

8. I believe if I did not have parents I would not know which way to go about doing. When ever I do something or go some place I all ways ask my parents opinion about what they think. I know that my parents are good to me.

9. When they tell me something it is right.

10. I feel that parents are nice; you should obey parent at all times.

11. You should be thankful for parents because the feed you, clothing you, and also find shelter for you, and help at anytime.

12. I think are to most cheisable human's on earch. You should love them with all your heart.

13. We are very lucky to have parents. Kids should respect their parents. Parents are the most wonderful things in the world.

Basis: Parents are viewed only as very desirable and always necessary. Parents embody authority and the generalized standard. When needs are expressed they are generally more socialized ("My parents are good to me" as opposed to a less complex response of "My parents give me what I want.").

Score 2

14. Aren't mean as we thing they are. They just worries all the time. All ways thinking something is going to happen to us. That is why they are some times so harsh and strict with us.

15. Are the best thing in the world for people, mainly children, but when you get older they still act as if you were a baby, telling you to come home early, giving advice as they would to a child.

16. Make you understand a little better than you know they help you with problems they try to prepare you with the best of things the have. They try to let you know about being grown up.

Basis: Through advancing self-delineation parents are seen as different and distinct from the respondent even though necessary.

17. Don't always understand your point of view, and some time don't give you a change to shoue you can be trusted.

Basis: Besides considerable expression of self distinctiveness, this response acknowledges "view points" which is more abstract than the absolutistic view of the Stage I orientation.

18. Bug me at my age but it can't do without them.

Basis: The beginnings of the consideration of conditional alternatives. Parents are still viewed as "bugging" but there is another way for viewing them expressed.

Score 3

19. This is difficult to answer, sometimes you feel one way and other times your feelings change. They should let their kids do a little more of their own thinking and give them credit when credit is due.

20. Are ok I guess, but I don't like parents who are to easy, who bend over backwards letting you have your way. My parents I think are great, my mother is harder to confince than my father so between the two of them there is a nice compromise.

21. I feel that parents are nice to have around. They give guidence when it is needed but sometimes they interfere when they are not needed. Sometimes they have too many rules for a young person to cope with. And parents seem to forget that they once were young and how the behaved. The expect too much from a young person.

22. Parents in general. Some parents say or do things that causes it to carry on to their children. Some parents are smart, neat, and clean, other parents they are the opposite. I like my parents they are nice when it comes to help. Otherwise I am helpful to them. Some parents dont understand their children.

Basis:, Parents are usually considered in general. Generally scored with the same referents as 2 except they are clearer and more pronounced. The beginnings of "between-other" discrimination can usually be seen in the description of parents as distinct and separate from one another as well as from the self.

When someone disagrees with me:

Score 0:

1. It doesn't bother me any. I don't do anything about it.

2. I get mad and I start to fight with the person. I tell them about them self and then I keep on talking until they stop.

3. I get angry with them and I want to fight and hurt them.

4. I beat his tail. I just let him have his way.

5. I feel like telling them to go to some place. I do not like for anyone to disagree with me.

Basis: The principles for scoring this stem are nearly identical with the stem "when I am criticized." Disagreement is viewed as imposition and little potential information is considered. The responses scored 0 are generally self-centered and high in negativism.

Score 1

6. I feel that they are right. I think that perhaps they are doing it for my own good.

7. When someone disagrees with me when they are right I will try to do it their way.

8. I try first to prove to them that what I say or did is right. I listen to what they say if they are not right I then try to prove to them that I am right.

9. I try and find out why they disagree with me. I figure either I am wrong or they are wrong. I think harder about why they disagree with me and see why I have been wrong.

10. I half to be wrong or right. We half to go to someone to find out who is right.

Basis: Compliance with the external standard and/or recourse to authority to solve the disagreement.

Score 2

11. There is nothing I can do. Because everyone is entitled to his or her own opinion or idea. I have mine they have his.

12. Sometimes agree with them. At other times I can't agree with them so I do what I want to do.

13. I try to point out the things about what we've talking about. But if that don't do I just say everybody has a different oppinion on things and I has mine.

14. I sometimes don't like it. If what I am doing I think is right and someone disagrees with me I fight for what I think is right.

Basis: The responses indicate that self-standards used in evaluating the disagreement as opposed to the use of a generalized standard. Also there is more use of tentative referents and alternatives.

Score 3

15. I feel like they don't know it all and that I don't either so we would just try to work out some sort of a compromise about this argument.

16. I try to prove my point, and then if they still disagree I try to see their point. But very often I'm stubborn and won't give in so I verbally agree, but not mentally.

17. I usually argue with him. Perhaps I shouldn't, and many times I don't but when I firmly believe in something or some values, I fight with every verbal resource at my command to prove my point of view.

Basis: More pronounced self-distinctiveness than responses scored 2.

When I am not sure:

Score 0

1. I don't do anything or say anything.
2. I skip over what ever I'm not sure about.
3. About something I don't do it what ever it is.
4. I don't know what to do. I never finish anything.
5. I don't know what to do. Wish I was superman because they say he is never in doubt.
6. I forget the hole thing. I ask no one.

Basis: Because this stem deals with uncertainty, sentences which indicate little tolerance for ambiguity are scored 0. There is no time allowed for any cognitive consideration, the responses being characterized by very quick closure. There is a general inability to cope with confusion. Almost immediate avoidances by "leaving field" or impulvise action.

7. I guess or ask someone about my problm.

Basis: Besides the rapid closure, "guessing" indicates a lack of any real involvement.

Score 1

8. When I am not sure I ask someone about it.

9. I ask someone older or smarter than I to tell what he or she thinks is the right answer. And if they is no one around like that then I'd try to get the answer out of a book on that particular topic.

10. Of something I do not speak, I listen until I understand. Then I speak.

11. I do thing right. When I am not sure I do my work right. When I am not sure I do thing right.

12. I like to do it all over. I'd like to ask someone about it. I like to be sure. I feel like checking it over.

Basis: Responses are generally deferential in character; there is usually a recourse to some sort of authority (parents, teachers, books etc.) for assurance and direction. There is also an intolerance for the state of doubt but the aim for closure is somewhat longer than for responses scored 0. Usually there is obvious discomfort at experience of uncertainty with attempts at fast closure.

13. I should look for the answer rather than guess. I should try to solve the problem myself and not ask a friend. I should think on the problem until I am sure of the answer.

Basis: Even though the content gives some evidence of a more complex structure, the "listing" of the prescriptions for solving doubt indicates a compliance with the generalized standard rather than a "break away" from it.

Score 2

14. Of something I wait until I am sure of it. Sometimes I get worried over it and go to my mother usually she provides a satisfactory answer. If then I'm not so sure yet I think and think about till I'm sure.

15. I think over the situation that figure it out till I am sure.

16. I decide to reason with my mind. Well when I not sure about anything. I sometimes go back into my mind and find the right answer.

17. I think about it until I am sure if I can. When I am not sure I try to get information so I can decide myself.

18. I clear my mind and bring in the facts on the matter. I think it over and make my conclusion.

19. I think it over by myself for a while and if I am still in doubt usually ask someone for help. But first I try to figure it when I am not sure out for myself.

Basis: These responses indicate a growing capacity to tolerate doubt and ambiguity. There is considerable reference to self-determined activity to allay the doubt (as opposed to recourse to the generalized standard which is somewhat less complex). There is usually some expression of more than one way to deal with doubt.

Score 3

20. I am often in doubt, like everyone else. Noone is certain all the time. When I am not sure I try and figure out what is bothering me. I go back and look at the various alternatives to see if I can choose the best one.

21. I try to think the thing out. Giving consideration to the various ways of looking at it. Then I make the best decision that I can. I try to make my own decisions because that kind of proves to me that I'm growing up.

Basis: The referents a re generally the same as for scoring 2 except for being more pronounced. The alternatives are clearly expressed with considerable differentiation. This differentiation allows cognitive exploration of the situation with a more considered solution.

When I am told what to do:

Score 0

1. When I am told what to do is when I fell mad.

2. I don't like nobody to tell me what to do. When anyone tell me I don't do it.

3. I some time don't like to do it. And don't do my best or don't do it at all.

4. I get very mad and start to argue. I hate to be told what to do because I get the impression that they can boss me and I want to hit them in the mouth.

5. I don't like to do it because I think some body is trying boss me are pushing me around.

6. When I am told what to do I get mad. When I am told what to do I will always try to start something with the person.

7. I don't want to do it. I would just pay no attention.

Basis: Responses indicate rather concrete and negative resistance to the authority. There is little potential for evaluating information because the Sub I interprets any authority as subjugation and rejects it immediately. Responses scored 0 generally manifest a high sensitivity to control as well as frequent "blasts" of uncontrolled hostility.

Score 1

8. When I am told what to do by a older person I say yes sir or yes Miss what her name is and go on and do it.

9. I try to follow the same directions, I feel that I can't go wrong.

10. I try and complete my order. And just do what I am told.

11. I do it. I do it without hesitating. I do it correctly so that I will get good grades.

12. When I am told what to do I always do it. If I do not do those things then I know that it is wrong. Everyone needs instructions and I try to follow them. My parents are very happy when I do things Im told to do. It makes me happy also.

Basis: These responses indicate an uncompromising compliance with the generalized standard. There is no alternative except to obey when the direction is from a person of high status. The concern is with "doing it right" or "correctly" (i.e., complying with the standard).

13. I do what my parents and older persons tell me what to do. But when some one smaller or younger come around and try to push me around telling me to do this and other things I won't do it.

14. By an adult I try to do it gladly. When I am told what to do by a child I won't do what he tells and I say shut up.

Basis: These responses are scored 1 because the reaction to requests are contingent on status of other. If a person is perceived as an authority the S will submit to direction and control. This is very similar to what has been termed "authoritarian submission," by various people.

Score 2

15. I do it sometime, and sometime I dont do it. I don't like been told what to do, I like to do things on my on free will.

16. I used to flare up and get all mad but I got do to it just the same so it doesn't make any sense when you do get hot or blow your top.

17. I try my to do it in the way I no how and not the way someone wants me to do it.

18. Sometimes I get mad and sometimes I do it. I dont know why I get mad but I do.

19. By my parents I hide my feelings. I really hate to be told what to do. If I am told to do something by a kid I wont do it. I feel I am queen of myself and no one is going to tell me what to do.

20. I usually do it, but if I'm mad I won't until I get ready or I do it and slam and bang this around.

21. I sometimes don't do it then. When I am told what to do I mumble a lot. When I am told what to do I get mad.

Basis: The negativism in these responses is modulated by the S's awareness of his own feelings and attempts to control them. There are rather strong indications of growing self distinctiveness ("queen of myself," "my way," "my own free will," etc.). Generally, there is a consideration of the circumstances and some of the possible ways of reacting to authority.

Score 3

22. I usually resent it in some cases but in others I feel that I am gain knowledge because of this. I take many different attitudes when I am told what to do.

23. I sometimes resent it. Especially if I already know what is to be done and someone keeps reminding me about it. I wish they'd get off my back. I know what I'm doing. When I don't understand something, I dont mind being helped out by being told what to do.

Basis: Considerable self-distinctiveness as well as an appreciation of the possible information in the situation leads to a score of 3. Generally the referents are the same as for a score of 2, tolerance of imposition, expression of alternatives, etc., except they are more clearly and definitely expressed.

TABLES FOR PRELIMINARY MANUAL FOR THE CONCEPTUAL LEVEL QUESTIONNAIRE FOR LOWER CLASS ADOLESCENTS (Sept. 1964)*

*See note on next page.

NOTE

Potential users of these materials are cautioned on several counts regarding scale research suitability at the present time:

First, these three empirically derived scales have been based on a lower-class sample which is predominantly Negro (90%) and whose demographic characteristics vary considerably from samples in middle class schools. The scales MAY be appropriate for use with other samples but to date there is no evidence that they are.

Second, the scales to date have been "validated" only against the same sample at a second testing time and much reduced in size (attrition about 40% during the school year). Data from new samples have not as yet been analyzed.

Third, the questionnaire described has not yet been administered to samples in its present format. The items used were drawn from three questionnaires which were separately administered. To the extent that item context is an important determiner of subject response, these scales may not be replicable.

Fourth, the interpretative scheme offered remains yet to be validated.

Summary

The research done to date with these scales has been limited almost entirely to psychometric refinement. Although the scales all reflect adequate reliability, in no real sense can a claim be made for anything other than content and preliminary construct validity. In spite of this limitation, it is felt that these scales have conditional research utility, and in this spirit they are offered.

Persons interested in the outcome of this research should direct inquiries to:

John Doppera
Syracuse University Youth Development Center
926 So. Crouse Ave.
Syracuse, New York 13210
315-476-5571 Ext. 3171

TABLE XX

Psychometric Characteristics of Three Conceptual Level
Scales for Boys, Girls and Totals

Scale	N*	$\bar{X}$	SD	MED	RANGE	KR_{20}	NR_{12}^{**}	R_{12}
Sub - I (15 items)								
B	146	6.48	3.62	6	0-14	.786	78	.354
G	144	5.40	3.52	5	0-14	.788	88	.293
T	290	5.95	3.61	5	0-14	.791	166	.333
Stage I (17 items)								
B	146	8.23	3.05	8	2-17	.593	78	.660
G	144	8.92	3.74	9	1-17	.754	88	.603
T	290	8.57	3.43	8	1-17	.690	166	.626
Stage II (13 items)								
B	146	8.38	2.69	8	2-13	.662	78	.521
G	144	8.58	2.98	9	1-13	.752	88	.481
T	290	8.48	2.84	9	1-13	.710	166	.496

*Spring - Fall 1963

**Available Spring - Fall 1963 and Spring 1964

TABLE XXX

Intercorrelations (raw scores) between three conceptual level scales for boys, girls, and totals

	S-I/I		S-I/II		I/II	
	t_1*	t_2*	t_1	t_2	t_1	t_2
Boys (N=78)	-.395	-.340	.193	.176	-.552	-.514
Girls (N=88)	-.387	-.452	.301	.343	-.604	-.605
Totals (N=166)	-.393	-.407	.241	.265	-.575	-.563

* t1 = Spring/Fall 1963

t2 = Spring 1964

APPENDICES

A. The Conceptual Level Questionnaire

B. Scoring considerations

C. Item and Scale data for the three sub-scales

NAME____________________

SEX: B____ G______

AGE: ____ Birthday ______
YR MO DAY

GRADE______ H.R.______

____

C L Q

These questions are to help us know you better. There are no right or wrong answers. Other tests tell us what you can do best, but this one is to find out how you feel about some things.

DIRECTIONS:

1. **Read each of the following statements carefully.**
2. **Decide which of the choices fits you best.**
3. **Mark your choice in the booklet.**
4. **Please be honest. Work as fast as you can and still do a good job. There is no time limit.**
5. **If you are not sure you understand these directions, ask the person who gave this to you before you start.**

Section I: Questions 1-24

If a statement fits you, Circle TRUE next to the question. If it does not fit you, Circle FALSE. Answer each one. Give the answer which describes your reaction.

True False 1. I never get angry if I have to stop in the middle of something I'm doing to eat dinner, or go to school.

True False 2. When I make a mistake, I always admit I am wrong.

True False 3. I have never felt like saying unkind things to a person.

True False 4. I never let someone else get blamed for what I did wrong.

True False 5. I never shout when I feel angry.

True False 6. Sometimes I wish that my parents didn't check up on me so closely.

True False 7. I never say anything that would make a person feel bad.

True False 8. I am always polite, even to people who are not very nice.

True False 9. I sometimes want to own things just because my friends have them.

True False 10. I always listen to my parents.

True False 11. Sometimes I wish I could just "mess around" instead of having to go to school.

True False 12. Sometimes I dislike helping my parents even though I know they need my help around the house.

True False 13. I have never been tempted to break a rule or a law.

True False 14. I sometimes feel angry when I don't get my way.

True False 15. I always help an injured animal.

True False 16. Sometimes I want to do things my parents think I am too young to do.

True False 17. I am always glad to cooperate with others.

True False 18. I always do the right things.

True False 19. Sometimes I don't like to obey my parents.

True False 20. Sometimes I don't like it when another person asks me to do things for him.

True False 21. I think it is easier to pay attention to a game or a noise than to the teacher in class.

True False 22. I feel that teachers punish me too much and over the wrong thing.

True False 23. If someone tries to boss me around, I argue it out with them rather than keep out of their way.

True False 24. Most teachers are too strict.

Section II: Questions 25-34

Choose the statement which fits you best and underline it.

25. Would you rather go to a school or go on a long car trip

26. If people want you to do something you don't want to do, do you get angry or just go along

27. In your work do you often forget or do you feel sure you can remember things

28. Are your parents always ready to hear you talk or are they sometimes too busy

29. Do you think you are always polite or are you perhaps a little too noisy

30. On days when there is nothing special to do, do you just do what comes or plan what you will do for the day

31. Do you obey the rules all the time or only when someone is looking

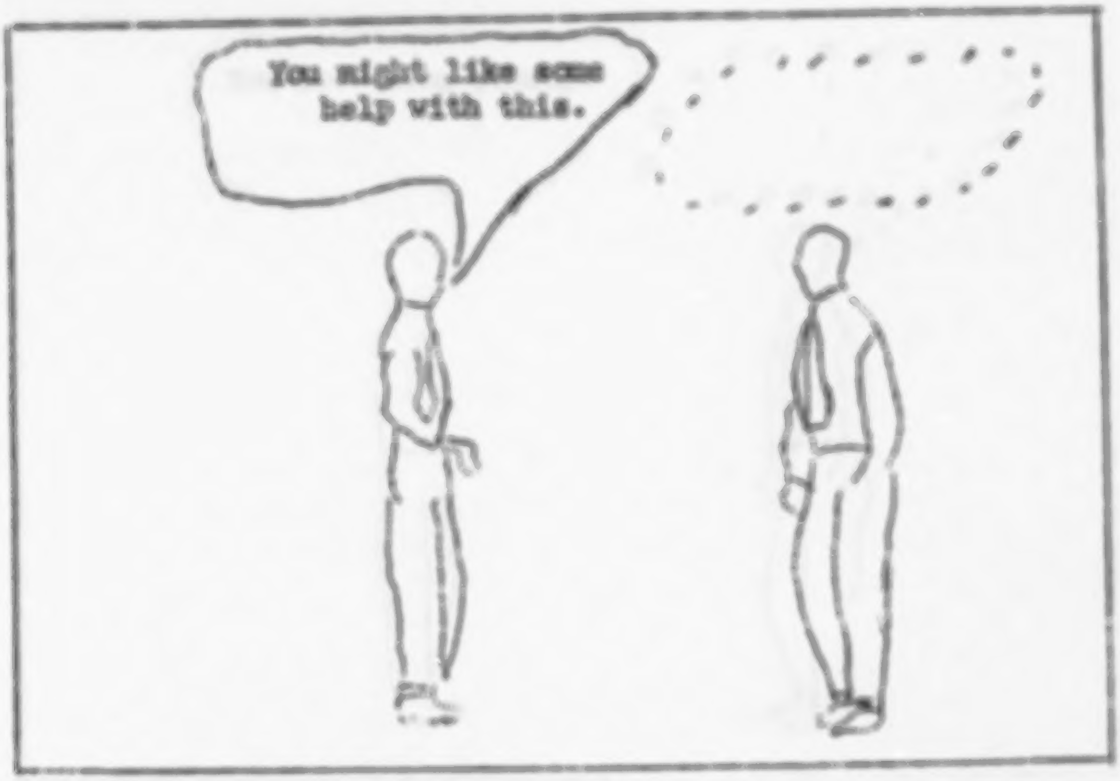
32. Would you rather read funny books or do arithmetic

33. When you visit a new building do you like to have someone show you around or do you like to find your own way

34. When you are in a hurry, do you still put your clothes away or just leave them

Section III: Questions 35-45

Suppose you are the person in the picture who is being spoken to. What would you think if someone you know said this to you.


You might like some help with this.

35. What would you think if this happened to you? (check one)

_____He should say what he thinks.
or
_____He should mind his own business.

36. What would you think? (check one)

_____I don't need any help.
or
_____I can use some help.

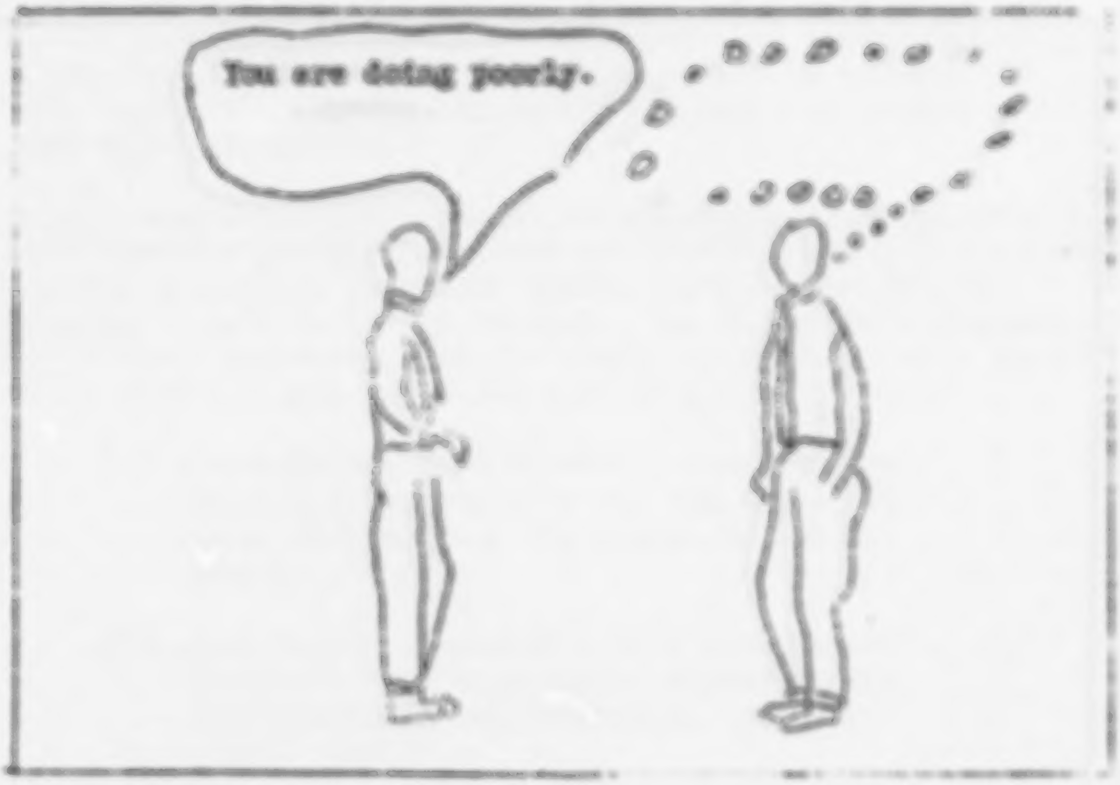
37. What would you think? (check one)

_____I hope he leaves.
or
_____I hope he stays.

38. What would you think? (check one)

_____I don't like it.
or
_____I like it.

Suppose you are the person in the picture who is being spoken to. What would you think if someone you know said this to you.


You are doing poorly.

39. What would you think? (check one)

____I hope he leaves.
or
____I hope he stays.

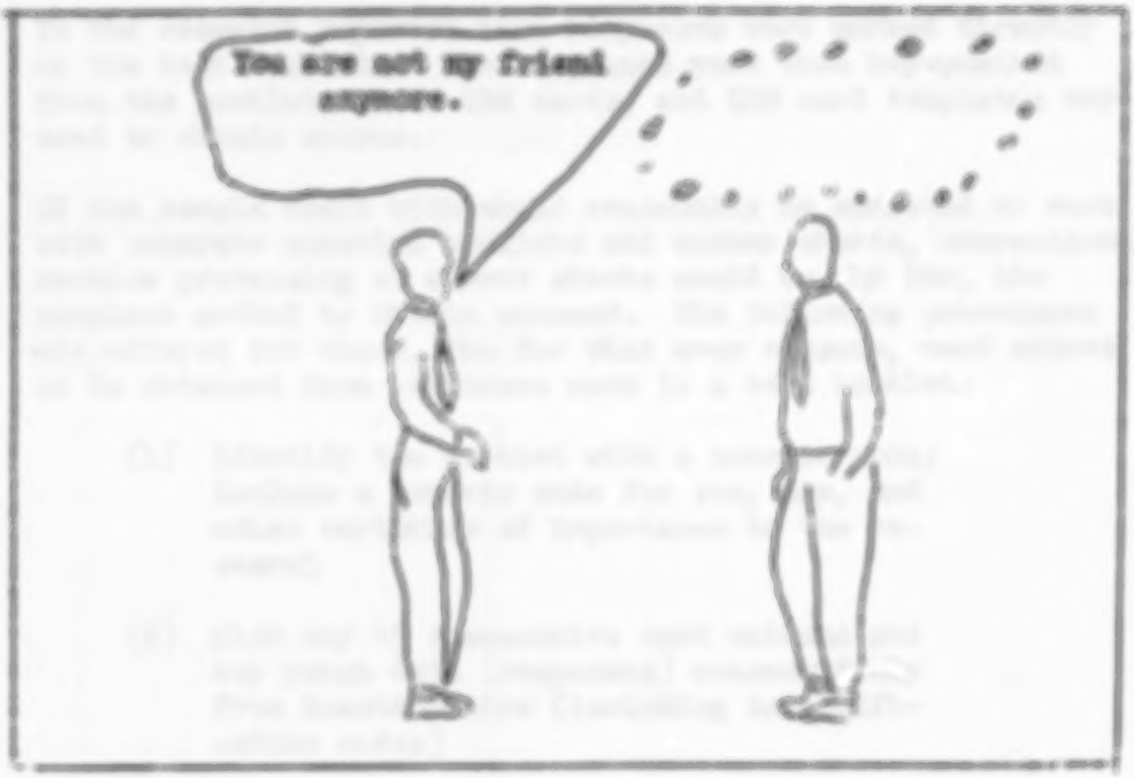
40. What would you think? (check one)

____He should say what he thinks.
or
____He should mind his own business.

41. What would you think? (check one)

____I don't need any help.
or
____I can use some help.

Suppose you are the person in the picture who is being spoken to. What would you think if someone you know said this to you.


You are not my friend anymore.

42. What would you think? (check one)

_____He should say what he thinks.
or
_____He should mind his own business.

43. What would you think? (check one)

_____I don't need him.
or
_____I wonder why he said that.

44. What would you think? (check one)

_____He's trying to make me mad.
or
_____He wants me to know how he feels.

45. What would you think? (check one)

_____I am not doing well enough.
or
_____I am doing well enough.

Appendix B: Scoring Considerations

In the research reported here responses were marked directly on the test booklets. The responses were then key-punched from the booklets on to IBM cards, and IBM card templates were used to obtain scores.

If the sample dealt with could reasonably be expected to work with separate question booklets and answer sheets, conventional machine processing of answer sheets would be, by far, the simplest method to obtain scores*. The following procedures are offered for those, who for what ever reasons, want scores to be obtained from responses made in a test booklet:

(1) identify the booklet with a numeric code; include a numeric code for sex, age, and other variables of importance to the research

(2) pick any 45 consecutive card columns and key punch data (responses) consecutively from Questionnaire (including indentification codes)

(3) construct a code-book, matching the 45 items in the questionnaire with the 45 card columns utilized

(4) construct three scoring templates, match scale items with appropriate card columns; key-punch appropriate response direction into the template (See next page)

(5) score each data card (containing the 45 responses of the subject) by placing each of the three scale templates separately over the data card and counting the holes it is possible to see through**

(6) record the scores obtained

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*The new IBM 1230 series can also provide item data as well as total scores.

**For large N's score by computer or IBM 400 series accounting machines.

APPENDIX B, continued

SCORING KEYS

Items and scoring direction for three CLQ sub-scales

Sub-I Scale		Stage I Scale		Stage II Scale	
Item	Dir.	Item	Dir.	Item	Dir.
4	2	1	1	3	2
22	1	2	1	5	2
23	1	6	2	7	2
24	1	8	1	9	1
35	2	11	2	10	2
36	1	13	1	12	1
37	1	15	1	14	1
38	1	17	1	16	1
39	1	21	2	18	2
40	2	25	1	19	1
41	1	26	2	20	1
42	2	27	2	28	2
43	1	30	2	29	2
44	1	31	1		
45	2	32	2		
		33	1		
		34	1		

Stanine Conversion from Raw Scores for
three conceptual level scales (totals only)

Stanine	Sub-I	Stage I	Stage II
1	14-15	16-17	13
2	12-13	14-15	12
3	10-11	12-13	11
4	8-9	10-11	10
5	6-7	8-9	8-9
6	4-5	6-7	6-7
7	2-3	4-5	4-5
8	1	2-3	3
9	0	0-1	0-1-2

Guide to the Configural Interpretation of the CLQ sub-scales

SCALE	Stanine Score	Diagnoses
S-I	low-moderate	
I	low-moderate	II
II	moderate-high	
S-I	low	
I	moderate-high	I
II	low-moderate	
S-I	moderate-high	
I	low-moderate	S-I
II	low-moderate	

*approximate values in stanines: low, 7,8,9; moderate 4,5 and 5,6; high 1,2,3

**moderate when coupled with low and high should probably not exceed the fifth stanine relative to direction of interpretation

Appendix C4

Sub-I scale Item Endorsement Data (%'s) for Totals,
and two item analyses (pure groups and conventional hi/lo 27%)

Item #	Scr. Dir.	Totals			Pure Groups			Item Anl.		%
		B	G	T	N-I	I	II	Hi	Lo	Disc
4 I never let someone else get blamed for what I did wrong.	2	47	44	46	67	32	56	71	28	43
22 I feel that teachers punish me too much and over the wrong thing.	1	50	36	43	62	35	48	71	11	60
23 If someone tries to boss me around I argue it out with them rather than keep out of their way.	1	61	57	59	79	41	60	79	29	50
24 Most teachers are too strict.	1	60	58	59	76	47	56	84	29	55
35 (help) He should say what he thinks or - he should mind his own business.	2	25	19	22	44	24	18	54	3	51
36 (help) I don't need any help or - I can use some help.	1	22	18	20	38	15	14	53	3	50
37 (help) I hope he leaves - or I hope he stays.	1	33	29	31	60	28	21	72	5	68
38 (help) I don't like it or - I like it.	1	34	30	32	58	28	25	71	8	63
39 (doing poorly) I hope he leaves or - I hope he stays.	1	49	46	48	75	36	46	81	11	70
40 (doing poorly) He should say what he thinks - or he should mind his own business.	2	45	35	40	61	31	46	69	11	58

Appendix C4

Item #		Scr. Dir.	Totals			Pure Groups			Item Anl.		%
			B	G	T	E-I	I	II	Hi	Lo	Disc
41	(doing poorly) I don't need any help - or I can use some help.	1	32	29	31	51	36	32	65	3	62
42	(not friend) He should say what he thinks - or he should mind his own business.	2	49	40	45	68	49	41	74	8	66
43	(not friend) I don't need him or - I wonder why he said that.	1	48	27	38	70	21	33	78	6	72
44	(not friend) He's trying to make me mad or - he wants me to know how he feels.	1	46	37	41	62	30	41	76	8	68
45	(not friend) I am not doing well enough or I am doing well enough.	2	45	40	42	70	42	23	71	22	49

Appendix C5

State I scale Item Endorsement Data (%'s) for Totals,
and two item analyses (pure groups and conventional hi/lo 27%)

Item #		Scr. Dir.	Totals			Pure Groups			Item Anl.		% Diss.
			B	G	T	I-I	I	II	Hi	Lo	
1	I never got angry if I have to stop in the middle of something I'm doing to eat dinner, or go to school.	1	30	35	33	26	44	28	62	6	54
22	I feel that teachers punish me too much and over the wrong thing.	1	46	54	50	36	56	36	76	18	58
6	Sometimes I wish that my parents didn't check up on me so closely.	2	46	37	41	31	59	24	68	18	50
8	I am always polite, even to people who are not very nice.	1	45	57	51	29	65	32	78	23	55
11	Sometimes I wish I could just "mess around" instead of having to go to school.	2	36	42	39	26	59	32	76	20	56
13	I have never been tempted to break a rule or a law.	1	40	41	46	33	53	32	75	20	55
15	I always help an injured animal.	1	60	39	50	40	56	36	68	23	45
17	I am always glad to cooperate with others.	1	67	71	69	50	76	52	94	38	56
21	I think it is easier to pay attention to a game or a noise than to the teacher in class.	2	52	61	57	38	82	44	83	30	53

Appendix C5

Item #	Scr. Dir.	Totals			Pure Groups			Item Anl.		% Disc.
		B	G	T	E-I	I	II	Hi	Lo	
25 Would you rather go to a school or go on a long car trip.	1	46	57	51	58	72	52	83	31	52
26 If people want you to do something you don't want to do, do you get angry or just go along.	2	50	51	51	42	78	43	78	25	53
27 In your work do you often forget or do you feel sure you can remember things.	2	52	46	49	52	72	43	78	28	50
30 On days when there is nothing to do, do you just do what comes or plan what you will do for the day.	2	56	53	55	39	78	43	84	33	51
31 Do you obey the rules all the time or only when someone is looking.	1	45	53	49	52	72	52	81	28	53
32 Would you rather read funny books or do arithmetic.	2	44	47	45	39	64	43	70	20	50
33 When you visit a new building do you like to have someone show you around or do you like to find your own way.	1	51	68	59	52	75	57	84	39	45
34 When you are in a hurry, do you still put your clothes away, or just leave them.	1	53	56	55	42	67	48	86	25	61

Appendix 06

Stage II scale Item Endorsement Data (%'s) for Totals,
and two item analyses (pure groups and conventional hi/lo 27%)

Item #		Scr. Dir.	Totals			Pure Groups			Item Anl.		% Disc.
			B	G	T	S-I	I	II	Hi	Lo	
[illegible]	I have never felt like saying unkind things to a person.	2	69	63	66	69	59	88	84	36	48
5	I never shout when I feel angry	2	66	81	73	74	68	92	91	42	49
[illegible]	I never say anything that would make a person feel bad.	2	59	53	56	67	62	76	85	27	58
9	I sometimes want to own things just because my friends have them.	1	69	76	72	67	68	88	94	42	52
10	I always listen to my parents.	2	34	38	36	40	21	64	78	9	69
12	Sometimes I dislike helping my parents even though I know they need my help around the house.	1	58	63	60	55	56	76	90	23	67
1[illegible]	I sometimes feel angry when I don't get my way.	1	73	73	73	76	62	88	96	41	55
16	Sometimes I want to do things my parents think I am too young to do.	1	83	76	80	79	74	92	99	53	46
18	I always do the right thing.	2	77	84	80	79	79	96	99	56	43
19	Sometimes I don't like to obey my parents.	1	59	71	65	64	53	84	94	20	74

Appendix C6

Item #		Scr. Dir.	Totals			Pure Groups			Item Anl.		%
			B	G	T	S-I	I	II	Hi	Lo	Disc.
20	Sometimes I don't like it when another person asks me to do things for him.	1	69	64	66	76	68	84	91	34	57
28	Are your parents always ready to hear you talk or are they sometimes too busy.	2	63	61	62	55	50	81	84	42	42
29	Do you think you are always polite or are you perhaps a little too noisy.	2	59	56	58	58	44	76	82	34	48

Personality Variation in Lower-Class Children[1]

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Riessman's description of "The culturally deprived child" (1962) emphasized the differences, especially in learning style, between lower-class and middle-class children as a means of pointing out the special characteristics of the culturally deprived student to teachers and other persons working with them. His emphasis on between-class differences, however, led to a single within-class type with a single cognitive style, the culturally deprived child. This oversimplified representation of all lower-class children in terms of one general learning style was apparently intended to change teachers' conceptions of these children through understanding how they differed from middle-class children, but at the same time, this monolithic view may also become a stereotype in its own right. Because of the increasing interest in planning educational programs for the culturally deprived student, and the impact of Riessman's description upon such programs, it seems appropriate to consider from an empirical standpoint the degree of difference in orientation between lower-class and middle-class children as well as the degree of variation within each class.

Therefore, the present report will consider personality variation within and between social classes from the Conceptual Systems viewpoint (Harvey, Hunt, & Schroder, 1961; Hunt, 1964). Working on a project to develop indicators of developmental change in lower-class children, we have derived personality patterns appropriate for characterizing personality variation not only within a culturally deprived population, but also within other populations (Hunt & Dopyera, 1963; 1964). Studying personality variation within lower-class children has the advantages of understanding these children more adequately and, if the dimension can be applied to middle-class children, opening the way for seeing similarities between lower-class and middle-class children.

From the Conceptual Systems view, development is seen as a continuous process which, under optimal conditions, proceeds in a given order to a higher conceptual level (CL). Higher CL is associated with greater interpersonal maturity and greater conceptual complexity, and thus is a desirable state. Under optimal conditions, progression on the CL dimension is viewed in terms of a series of successive stages, each characterized by a specific interpersonal orientation and conceptual structure. If environmental conditions are not optimal, then the person remains at a lower CL, and may become closed to further progression. For present purposes, we are concerned only with the person's current position on the CL dimension which can best be described through summarizing the characteristics of the developmental stages. Stage characteristics are derived from assumptions about a series of increasingly complex forms of "conceptual work" (Hunt, 1964), and stages are assigned Roman numerals to indicate increasing CL.

Stage I work consists of defining the external boundaries and learning the generalized standards which apply to all persons. The person learns what is "right" and "wrong," he learns what is culturally expected and how to play culturally prescribed roles, and he experiences events categorically either as "good" or "bad." Stage I orientation is similar to Piaget's stage of "moral realism" in the concern with compliance to rules.

The generalized ground rules acquired in Stage I provide the foundation for the Stage II work of defining oneself and learning self-responsibility.

Stage II is characterized by concern about how one is distinctively oneself and different from others, thus requiring a "breaking away" from the generalized standard. This initial expression of independence may appear in exaggerated form, but nonetheless the self-delineation produces a more highly differentiated structure. State III and Stage IV are concerned with empathic learning about others and a more complex assimilation of structure, respectively, but these higher stages occur very infrequently, if at all, in the age range of the present study so that we will be concerned only with the lower stages.

As mentioned earlier, difficulty may occur at any one of these stages. The person may not successfully accomplish Stage I work, in which case we view his orientation as a Sub I stage which is characterized by impulsivity and immaturity. When a child at Sub I stage enters adolescence, he may attempt to become more independent, without the necessary Stage I foundation which produces considerable negativism.

Rather than classify a person into one of the three stage groups as we have categorically done for other purposes, we assigned each person a single score on the continuous CL dimension as indicated in the following summary.

CL score	Stage	Stage characteristics
0	Sub I	Impulsive, egocentric, poorly socialized.
1	Stage I	Compliant, dependent on authority, rule-oriented.
2	Stage II	Independent, questioning, self-assertive.

Although a person's position on the CL dimension is a very general description of his personality, CL has been related to a broad domain of variables such as differential educational treatment (Hunt & Dopyera, 1963), incidence of delinquency (Hunt & Hardt, 1965), different forms of parental training conditions (Cross, 1965), and cognitive factors (Wolfe, 1963). Because of its relevance to both cognitive functioning and differential educational treatment, CL seemed appropriate for the present investigation, and we therefore assessed CL in a lower-class population and in a middle-class population to investigate the degree of difference and the degree of variation within each class. On the basis of common-sense and earlier investigations, it was expected that CL would be generally higher in the middle-class than in the lower-class group. Some recent descriptions imply little cognitive variation among lower-class students, but there was not a sufficient basis on which to predict which class would show greater variation, so there was no explicit expectation about CL variation.

Method

Subjects

The lower-class group consisted of all students attending a "center city" junior high school in a lower-class section of a metropolitan area, over three-fourths of whom were Negro.[2] The middle-class group consisted of all students attending a junior high school in a nearby community which is primarily middle-class and contained very few Negro students. Data were collected for approximately 95% of the students in each school, so that the lower-class group contained 297 subjects and the middle-class 717 subjects.

Practically speaking, there was no question that these two school populations were very different in social class level even though there may have been an occasional instance of individual overlap in the two class distributions. This common-sense impression was supported by the mean grade level of father's education which was 10.3 years for the lower-class group and 12.0 years for the middle-class group (Because of the large number of fatherless families in the lower-class group, this information was available for only about half of this group so that the educational level of lower-class fathers is probably considerably overestimated).

Procedure

Subjects were tested in classroom-size groups by two experimenters. The sentence completion method which was administered as part of a larger battery provided the basis for obtaining CL scores. Each subject received a booklet containing stems, e.g., "Rules," "When I am criticized," one on each page, and given three minutes in which to write on each topic.

Each of the six responses on the 1014 protocols was scored independently by two judges using the manual developed by Hunt and Halverson (1964) specifically for measuring CL. Since this coding procedure was critical to the results, the general referents and an example for each scale point are presented below.

CL score	Generic referents	Example from "When I am criticized"
0	Highly egocentric; no alternatives; exclusion of all negative events.	"I ignore it. I don't like it and never want to be criticized."
1	Categorical; little or no self-delineation; concern with "right-wrong," "good-bad," "should," etc.	"I should take it with thanks. I work harder and try to do the right thing."
2	Beginning self-delineation; alternatives available; greater differentiation.	"It tells me that other people may think quite different from me."
Unscoreable	Cliches, insufficient referents, stem repetition.	"I am criticized."

Even though inter-rater reliability between trained judges is fairly high (r = .85 to .90), each of the 6084 responses was scored by two judges in order to maximize scoring precision. Subject's CL score was obtained by computing the average of scoreable responses. If three or more responses were unscoreable, S was classified unscoreable, and dropped from the analysis. Twenty lower-class and 25 middle-class subjects were dropped for this reason. Therefore, the analysis was based on 277 lower-class subjects (132 male and 145 female) and on 692 middle-class subjects (356 male and 336 female).

Results

Mean CL scores by social class and sex group are presented in Table 1.

Insert Table 1 about here

As expected, the lower-class mean CL scores were significantly lower than the middle-class scores for male, female, and total groups. However, in all three comparisons, the lower-class group showed significantly more CL variation than the middle-class group. Because of the lower CL mean score in the lower-class group, the question of whether the greater lower-class variation might have resulted from a large proportion of very low scores was considered. However, an inspection of the two class distributions indicated that even though the lower-class CL mean was .90, that there were almost as many in the lower-class group with scores above 1.0 (25%) as there were in the middle-class group (30%). The greater lower-class variation resulted partly from the extremely constricted middle-class variation in which almost half (47%) of them scored exactly 1.0, i.e., Stage I. When

Table 1

Mean CL scores by social class and sex

Class Group	Male Mean	Male SD	Female Mean	Female SD	Total Mean	Total SD
Lower	.79	.36	.99	.33	.90	.36
Middle	1.01	.28	1.06	.22	1.03	.25
t	7.10**		2.77**		6.43**	
F		1.30*		1.50**		1.42**

*=.05 level of significance

**=.01 level of significance

the data were considered in terms of stage classification, the lower-class group contained a higher proportion classified at the Sub I stage, and the middle-class group contained a higher proportion at Stage I both as would be expected, but the lower-class group had a slightly higher proportion at Stage II.

Sex differences were also analyzed, and in agreement with earlier investigations on similar cognitive factors (e.g., Gollin, 1958), the female mean CL score was significantly higher than the male score (.01) for both class groups. In the middle-class group, the variation within the male group was significantly greater (F = 1.26, df = 355,355, .05) than the variation within the female middle-class group, but there was no sex difference in variability within the lower-class group.

Discussion

The relatively higher conceptual level for the middle-class group in general is in keeping with earlier results (Gollin, 1958), and also indicates the general differences between lower-class and middle-class students as implied by advocates of special programs for the culturally deprived student. However, the finding of greater variation in the lower-class group raises questions about using a single educational prescription for the culturally deprived student.

Based on a description of the culturally deprived student as quite concrete and externally oriented, Riessman has suggested in a recent conference that the optimal educational environment for the culturally deprived student should consist of the following: "Consistency, structure, and order are fundamental. ...Extrinsic rewards and punishment are understood." (Riessman, 1964, p. 98). Riessman's description is similar to the Sub I orientation, and we have found that an educational environment similar to the one he describes is indeed most effective with this group (Hunt, 1964). However, as Miller suggested at the same conference from which the Riessman suggestion came, "People vary. From what I have been able to learn, it appears that certain methods work very well with certain groups, but they do not work very effectively with others (1964, p. 119). Put in present terms, although Riessman's suggestion may be very effective for some culturally deprived students, it may be very inappropriate for others.

Using a Conceptual Systems change model (Hunt, 1964), we have obtained evidence for the differential effectiveness of educational environments according to the student's conceptual level. Using the present population of lower-class students, classroom groups were formed homogeneous in conceptual level -- a Sub I group, a Stage I group, and a Stage II group. In an exploratory study with ninth grade students, the teachers were unaware of the nature of the groupings, but they quickly discovered that the groups were differentially receptive to specific educational procedures. The Sub I group required considerable structure and concrete experiences, and could not maintain a discussion. The Stage I group functioned most effectively when competition and debates were involved. The State II group seemed to function most effectively when there was considerable opportunity for independent exploration, questioning, and differences of opinion. In the later study, homogeneous classroom groups were formed in all three grades, and served as the focal point in a program of differential educational treatment for the culturally deprived population. Within this context, Riessman's recommendations might be very appropriate for a Sub I group, but very inappropriate for a Stage II group (this problem is further complicated because some teachers find it difficult to distinguish between the Sub I and Stage II orientation perhaps because both involve some opposition).

Therefore it seems important to qualify Riessman's description and suggestion in light of the considerable variation observed within this population. If it is agreed that an understanding of a student's orientation permits deriving optimally effective educational procedures, then the present finding of considerable variation within the lower-class group is important because it points to the need for variation in the educational environments developed, and the coordination of these environments with the students. Such coordination or "matching" of student and educational environment is also applicable to middle-class students, but perhaps its most interesting application might be to a recently desegregated school where variation in conceptual level might be used as a means of planning optimal educational environments in schools containing both lower- and middle-class students.

[redacted]

Summary

Riessman (1962) has described the culturally deprived child in terms of a fairly uniform cognitive style, and suggested educational procedures appropriate for such students. Within this context the present investigation of junior high school students found, as expected, that the conceptual level (CL) of a lower-class group was lower than that of a middle-class group. In contrast to what might be expected from Riessman's description, however, the lower-class group showed more CL variation than the middle-class group. This greater lower-class variation was discussed in terms of providing differentially effective educational procedures for students varying in CL, and the utility of Conceptual Systems theory for providing such coordination was considered.

Footnotes

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[2] That this population is culturally deprived has been implicitly acknowledged in a recent decision to close this school, and to assign the students to several other schools in the city in an effort to redress racial imbalance.

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